ADDENDUM NO. 3

October 29, 2021

Fort Ben Branch Library Project
9330 East 56th Street
Lawrence, IN 46216

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, and the Drawings and Specifications dated September 24, 2021, by Ratio Architects, Inc. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Page ADD 3-1 through ADD 3-10 and attached Ratio Architects, Inc. Addendum No. 3 dated October 29, 2021, consisting of 5 pages, Specification Section 03 30 00 – Cast-In-Place Concrete, and Drawing Sheets: A-001, A-002, A-101, A-102, A-105, A-131, A-351, A-352, A-402, A-502, A-521, E001, E201, E801, M201, M401, M503, M602, M603, M701, P200, and P201.

A. **SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY**

1. Paragraph 3.03A Bid Categories

A. Bid Category No. 1- General Trades

1. Delete the following Specification Sections:

Section	01 51 80	Temporary Fire Protection
Section	01 51 60	Temporary Sanitary Facilities
Section	08 31 13	Access Doors and Frames
Section	01 57 60	Project Signs

2. Replace the following Specification Section:

Section	03 30 00	Cast-In-Place Concrete

3. Add the following Specification Sections:

Section	07 21 00	Thermal Insulation
Section	09 69 00	Access Flooring
Section	20 05 00	Common Mechanical Work Results

Section	20 05 03	Basic Piping Materials and Methods
Section	20 05 13	Motors for Mechanical Equipment
Section	20 05 19	Thermometers and Gauges
Section	20 05 23	General Duty Valves
Section	20 05 29	Mechanical Hangers and Supports
Section	20 05 48	Vibration Controls
Section	20 05 53	Mechanical Identification
Section	20 07 00	Mechanical Insulation

3. Substitute the following clarifications:

4. Provide temporary access roads and construction entrances as indicated on Site Logistics Plan FBL-SLP-01 dated September 24, 2021. Include installation and removal when and as directed by the Construction Manager. Provide snow fencing as indicated in Section 01 53 10. The Construction Manager shall provide and remove the perimeter construction fencing and gates for the project.

8. ~~Provide temporary sanitary facilities for entire project duration.~~ The Construction Manager will provide temporary sanitary facilities for the project.

17. Provide ~~dumpsters and~~ rubbish containers for the duration of the project. Bid Category Nos. 3, 4 and 6 shall provide dumpsters and rubbish containers for their own work. The Construction Manager shall provide dumpsters for the balance of the Contractors.

27. Regarding Specification Section 06 10 53 – Misc. Rough Carpentry; The Bid Category No. 4 Contractor is responsible for all wood blocking and sheathing required for roof installation including inside parapet wall sheathing, MEP curbs, metal roof copings, roof hatches, etc. This includes any "Densdeck" type sheathing or plywood required at the inside face and top of parapet walls. The Bid Category No. 6 Contractor is responsible for wood blocking and plywood within the Metal Stud Walls, plywood attached to metal stud walls, plywood or wood studs required at all window/storefront/curtainwall openings (including openings located within CMU/Brick construction). The Bid Category No. 1 Contractor is responsible for all other wood blocking required in the Contract Documents. ~~including but not limited to temporary enclosures for winter conditions at all window and door openings~~.

29. ~~Provide plywood covered frames or reinforced plastic for window openings, overhead door openings, and hinged plywood at door openings to maintain temperatures necessary to perform the work and provide security. Provide protection against adverse weather so that the building and materials will not be damaged, and against unauthorized entry. Protection shall be provided well in advance of finishing operations to prevent penetration of dust or moisture into finished areas.~~ The Construction Manager shall provide temporary enclosures for the project.

4. Add the following clarification:
   43. Coordinate the Access Flooring System with all other Contractors whose work passes through and beneath the Access Flooring System. Seal all penetrations created by ductwork, piping, conduit, diffusers, grilles, etc. which pass through the Access Flooring System and plenum divider. Seal gaps between Access Floor System and adjacent vertical construction.

D. Bid Category No. 4 – Roofing

1. Substitute the following clarification:
   3. Regarding Specification Section 06 10 53 – Misc. Rough Carpentry; The Bid Category No. 4 Contractor is responsible for all wood blocking and sheathing required for roof installation including inside parapet wall sheathing, MEP curbs, metal roof copings, roof hatches, etc. This includes any "Densdeck" type sheathing or plywood required at the inside face and top of parapet walls. The Bid Category No. 6 Contractor is responsible for wood blocking and plywood within the Metal Stud Walls, plywood attached to metal stud walls, plywood or wood studs required at all window/storefront/curtainwall openings (including openings located within CMU/Brick construction). The Bid Category No. 1 Contractor is responsible for all other wood blocking required in the Contract Documents. ~~including but not limited to temporary enclosures for winter conditions at all window and door openings.~~

E. Bid Category No. 6 – Metal Framing/Drywall/Ceilings

1. Add the following Specification Section:
   Section 08 31 13 Access Doors and Frames

2. Substitute the following clarification:
   3. Regarding Specification Section 06 10 53 – Misc. Rough Carpentry; The Bid Category No. 4 Contractor is responsible for all wood blocking and sheathing required for roof installation including inside parapet wall sheathing, MEP curbs, metal roof copings, roof hatches, etc. This includes any "Densdeck" type sheathing or plywood required at the inside face and top of parapet walls. The Bid Category No. 6 Contractor is responsible for wood blocking and plywood within the Metal Stud Walls, plywood attached to metal stud walls, plywood or wood studs required at all window/storefront/curtainwall openings (including openings located within CMU/Brick construction). The Bid Category No. 1 Contractor is responsible for all other wood blocking required in the Contract Documents. ~~including but not limited to temporary enclosures for winter conditions at all window and door openings.~~

F. Bid Category No. 7 – Flooring

1. Delete the following Specification Section:
   Section 09 69 00 Access Flooring

G. Bid Category No. 8 - Plumbing

1. Add the following Specification Sections:

Section	20 05 00	Common Mechanical Work Results
Section	20 05 03	Basic Piping Materials and Methods
Section	20 05 13	Motors for Mechanical Equipment
Section	20 05 19	Thermometers and Gauges
Section	20 05 23	General Duty Valves
Section	20 05 29	Mechanical Hangers and Supports
Section	20 05 48	Vibration Controls
Section	20 05 53	Mechanical Identification
Section	20 07 00	Mechanical Insulation

Request For Information (RFI) Responses

All bidders are responsible for reviewing all RFI questions, their associated responses, and include the scope of work indicated within their bid as required.

Bid Category No.	RFI Question	Team Response
1	There is a spec section for Crushed Aggregate Surfacing. There is a note at the sidewalk at the SW entry walk pointing to a limestone seat wall. Please clarify.	Refer to L-201 and Detail A1/L704 for extent of this scope of work. This "french drain" is located on the north side of the limestone seat wall/bench and is limited to the east-west dimension of said seat wall/bench.
1	Spec section 01 51 60, 1.02, A – Please provide clarification on “Saniprep”. Is this a specific item? I cannot find where to obtain this item.	Temporary Sanitary Services have been removed from BC No. 1 scope of work
1	What is the schedule for installation of the curtainwall and storefront? Can you further define areas and time that temp protection will be needed?	Temporary Enclosures have been removed from BC No. 1 scope of work
1	There is an enlarged crosswalk element at the top of L-201. Verify this is the detail for items 32-17I. (sidenote – the numbers are shifted down)	This is the correct detail for Item 32-17I. The numbers should be shifted "up" to align with the colored thermoplastic striping pattern.
1	Can the BP1 General Trades Contractor employee the Civil Engineer of Record for Field Engineering?	Negative. Field Engineering requires an independent surveyor which was not a part of the design team.

Bid Category No.	RFI Question	Team Response
1	Per Aggregate Pier System Note Item 6 – GC to engage in Independent Testing Agency. Is it the intent of the owner to contract with this testing agency and GC to coordinate installation as part of their 3rd party inspections?	The CM will hire the testing agency. BC No. 1 Aggregate Pier Subcontractor shall provide all testing equipment and labor required to conduct bearing capacity load testing; the testing agency shall witness the test(s).
1	Exterior sign A-201: Please provide depth of letter and advise if these letters should illuminate.	1/2" depth. Non-illuminated.
1	BP1 – Scope Item 2 – Is there a Civil demolition drawing going to be provided?	No.
1	Specification Section 01 53 20 call for tree protection. Are there specific tree's that the owner wants saved?	Review sheet L-501; Tree Protection Notes 1 & 2
1	Specifications Section 31 14 17 Selective Site Demolition – Item 1.2.A.2 & 3 – Are there specific items that we are to repair and what is the extent of site demolition.	Site Clearing/Demolition work is generally limited to within the Construction Fence (CF) boundary indicated on Drawing L-201. Refer to Section 01 12 00 Multiple Contract Summary, Paragraph A Bid Category No. 1, Clarification No. 39 for additional site demolition work that is required to be included by BC No. 1.
1	There are a series of 50 gal drums, who's responsibility is it to dispose of these and what is in them?	These are the excess auger cuttings from the geotechnical investigation and should have been labeled accordingly. At the time of the work it had not yet been confirmed that the cuttings were clean and were containerized as a precaution. It has since been determined that they are clean and can be disposed of. BC No 1 Contractor shall properly dispose of these items.
1	Specification Section 057500 – Decorative Formed Metal – Could not specifically find this spec section ID'd on the drawings, please ID where this specification section applies specifically on the drawings.	See Detail F4/A-351, F6/A-351, C6/A-353 and E6/A-353. In general, this work is located above the curtainwall and at the cantilevered roof edge.

Bid Category No.	RFI Question	Team Response
1	Spec 057500 – 1.2.B – Related Requirements – Specification sections 076200 & 077100 are not specific specs related to BP1 Scope of Work. Please Advise.	These are related sections of adjacent finish components and not necessarily included within BC No. 1. Coordinate all work with adjacent finishes provided by other Bid Category Contractors.
1	Please confirm Footing Depths listed for WF30T and WF42T are correct on Wall Footing Schedule.	Yes, the 1'-2" thickness shown in the schedule is correct. "T" represents top reinforcing and does not necessarily designate a thicker footing.
1	Unable to find Vapor Barrier Spec for Slabs. Please advise.	Please see the revised 03 30 00 specification section in Addendum 3 for Section 2.11 - Waterstops and Section 2.12 - Vapor Retarders.
1	The Specification Section 126200 Furnishings & Upholstery as well as Furniture Drawings A-161 lacks many necessary details in order to provide accurate quote to furnish Building. Please advise on how to go about pricing this work?	The majority of furniture shown on A-161 is outside this scope of work. The upholstery that is to be included within the bid is indicated as TEX-01 and TEX-02 per elevations D1/A-502. This references the banquette seat and back fabric along column line 11.3. The finish schedule on sheet A-002 indicates the allowance to price. Architect to select final fabric within approved manufacturer's lines indicated within specification that fall within the price allowance structure.
1	Section 062015, 1.2, A, 1 Exterior thermally modified wood used at benches. I cannot find where the thermally modified wood is used. Please clarify.	This product is required at the exterior bench seat wall; see B4/L-704 and D4/L-704.
1	Detail C3/A-352 shows a plenum divider system below the access floor. How is this constructed, where does it occur, does it divide the zones shown on the HVAC drawings, and which bid package is responsible for this work?	The plenum divider is an accessory that is to be provided by the Access Flooring contractor. It's essentially a bent metal sheet (L-shaped) that's caulked at the edges and attached to the slab/side of pedestals. The intent of this is to help pressurize the access floor system south of column line D.9. This plenum divider occurs at the two locations where the access floor system extends north of column line D.9.

Bid Category No.	RFI Question	Team Response
1	Details on Sheet A322 Show the stud cavity painted flat black, what is the extent of this work? Which bid category is responsible for doing this painting?	The extent of the flat black paint is in the visible area with the stud cavities behind the return grille RG-3 between column lines 9 & 10. BC No. 1 Contractor is responsible for painting this in the field.
1	Which contract is responsible for sealing the concrete opening in the mechanical room with sheet metal like is shown on Detail A1/A-322?	Access Flooring Contractor shall seal the gap between the concrete curb and the sheetmetal ductwork.
1	We did not find soil mixes for this project. Please provide.	To be answered in Addendum No. 4 on 11/1/21
1	Several items in the landscape schedule are listed as in groups of 1-3 or 1-5. We need a specific count of plants needed in these areas. Highlighted below in yellow are a couple of examples but not a complete list.	To be answered in Addendum No. 4 on 11/1/21
1 and 6	BP1 – General Trades – Specification Section 083113 – Access Doors & Frames – Is it your intent that this bid package acquire all access doors for the MEP trades? If so, can a base line quantity be established for the MEP Trades?	Access Doors and Frames reassigned to BC No. 6 in Addendum No. 3; required quantities are indicated on the Architectural, Mechanical and Plumbing drawings.
1 and 6	Detail A3/A-503 shows painted plywood behind wall panels. The plywood falls under BC-06. Will the paint fall under BC-01?	BC No. 1 is responsible for painting these plywood sheets.
1 and 6	Sheet A-524 shows details for the display case. Please specify which layers of wood BC-01 and BC-06 are responsible for.	BC No. 1 is responsible for all plywood layers and blocking associated with this display case.
1 and 6	Sheet A-521 shows details for the banquette cavity at window. Please specify which layers of wood BC-01 and BC-06 are responsible for.	BC No. 1 is responsible for all plywood layers and blocking associated with this banquette and cavity wall.
1 and 6	Which Bid Category is responsible for the rigid insulation and plywood on the face of the sheathing behind the metal panels? How is this installed?	BC No. 6 Contractor is responsible for the rigid insulation and plywood sheathing behind the Metal Panel Systems. Intent is for the plywood to be attached to studs through the rigid insulation.
1 and 10	Note 5 – Is it the responsibility of the GC to coordinate final locations of the fire alarm/data voice locations?	BC No. 10 is responsible for coordination of devices provided under their scope of work.

Bid Category No.	RFI Question	Team Response
1, 3, 6	Please confirm that all rigid insulation falls under BC-03 as Thermal insulation falls under multiple categories.	Rigid insulation is assigned to BC No. 1 at foundation walls via Clarification Note No. 35 in Section 01 12 00; BC No. 3 and BC No. 6 clarifications are located within these RFI Responses.
1,6,9	Details on A322 show the stud cavity being lined with sheet metal. Which contract is responsible for this work?	BC No. 9 Contractor is responsible for constructing and sealing the return air plenum between the studs. BC No. 1 Contractor is responsible for painting this plenum.
2 and 6	Who furnishes and installs the Galvanized 3x3x1/4" angle on the face of the sheathing at the parapet shown in detail C6/A351?	Addendum No. 3 drawings will be revised to remove this angle and replace with (2) 2x4 studs turned sideways. BC No. 6 is responsible for these 2x4 studs.
3	Which Bid Category is responsible for the rigid insulation on the face of the gyp sheathing behind brick or masonry? How is this rigid insulation installed?	BC No. 3 Contractor is responsible for cavity wall insulation located behind CMU or brick veneer. Attachment is a means and methods issue.
4 and 6	In detail E6/A353 is all the plywood on the metal stud by the roofer?	At this condition, BC No. 4 Contractor is responsible for insulation and plywood sheathing required to the top of their parapet roofing system PLUS another 1'-0"; BC No. 6 is responsible for all other insulation and sheathing located behind Metal Panels.
4 and 6	Which Bid category is responsible for the spray foam insulation in the roof deck, like shown in detail F4/A351?	BC No. 4 Contractor is responsible for spray foam insulation required above the roof deck; Bid Category No. 6 Contractor is responsible for spray foam insulation required below the roof deck. Refer to Section 072100 2.7-Accessories for the spray foam insulation product specification.
4 and 6	Drawings show something in the Roof Flutes. Is this to be flute filler or spray foam insulation?	BC No. 4 Contractor is responsible for spray foam insulation required above the roof deck; Bid Category No. 6 Contractor is responsible for spray foam insulation required below the roof deck. Refer to Section 072100 2.7 Accessories for the spray foam insulation product specification.

Bid Category No.	RFI Question	Team Response
6	For Alternate No. 4, the specs mention a length of 8 feet for the wood panels. Are 10-foot panels acceptable to use to prevent waste, and provide cleaner cuts for the wood ceiling clouds?	10-foot panels are acceptable.
6	Is wall type F6N designed to be load bearing, or is it just a part of 054000 scope? 2.	Wall type F6N is not intended to be self-supporting but the walls do have some structural component. For example, the wall along column line D.9 includes (2) two long spans – one between CL 6 and 7.5 (between 7 and 8) as well as between CL's 9 and 11. Reference detail A1/A-322 and C3/A-35
6	A3/A-503 calls for "Painted Plywood", however, C6/A-521 calls for "Painted 3/4" Particle Board Paneling", Please clarify.	Addendum 3 drawings will be revised to read ¾" birch plywood, sanded A-face, painted.
7	For alternate 3, only 1 elevation is provided for T-2 and T-4. Please clarify if the alternate affects any other walls in these restrooms	The alternate affects all walls within the restrooms noted.
9	Plan M201 note 10 States 5 instances, only 4 are shown.	There are two (2) locations on Column Line E between Column Lines 9 and 10; only one of these is marked with Note 10. This is clearly a large RA plenum as indicated on A1/A502. Bidders are required to review and include all scope of work items associated with their Bid Category as indicated on ALL drawings included in the bid documents.
9	Plan M401 has some of the return hatched (indicating double wall) and no supply. Specs state all of AHU -1 return and supply is double wall. Which is correct?	The supply and return ductwork to AHU-1 is to be double wall
10	Is there rack space available for the paging equipment in IT room 115?	Yes, there is space within the telecommunications rack for paging equipment. There is also wall space mounting to the plywood backboard.

Bid Category No.	RFI Question	Team Response
10	There is an add alternate for control of the electric fireplace in adult collection. Notes 55 & 56 on drawing E301. I do not see an alternate in the specs that address this. What alternate # should we use for this?	This work is to be included in the Base Bid. Plan note will be removed to correct this issue.
10	Mechanical plans list RG-3. There is no RG-3 listed on the schedule.	RG-3 will be noted on sheet A-502. Mechanical drawings will reference the finished grille to the Architectural drawings. See Addendum 3 drawings.
ALL	**CMID Drawing 1 of 2. Can any portion of Lot 2 be used for a laydown/trailer area?**	**Negative. That parcel is owned by a private developer.**
ALL	**Can we bid multiple Bid Categories?** **Can we submit combination bids?**	Yes. See Section 00 10 00 Instructions to Bidders Paragraph 1.19 A and B. **Individual Bids must be submitted (in separate envelopes) for <u>each</u> Bid Category AND <u>Combined Bid</u>.** <u>Example for Bidding BC Nos. 8 and 9:</u> 1. Submit Sealed Bid for BC No. 8 2. Submit Sealed Bid for BC No. 9 3. Submit Sealed Bid for COMBO 8 & 9 4. All three (3) sealed bids can be contained within a single envelope

ADDENDUM NO. 3

DATE: 10 / 29 / 2021

PROJECT: FORT BENJAMIN HARRISON BRANCH
INDIANAPOLIS PUBLIC LIBRARY
LAWRENCE, INDIANA

RATIO PROJECT NUMBER: 18005.000

OWNER:
INDIANAPOLIS PUBLIC LIBRARY
INDIANAPOLIS, IN
2450 North Meridian Street
Indianapolis, IN 46208
(317) – 275-4100

ARCHITECT / LANDSCAPE ARCHITECT:
RATIO ARCHITECTS, INC.
101 South Pennsylvania Street
Indianapolis, Indiana 46204-3684
Phone: (317) 633-4040
Fax: (317) 633-4153

STRUCTURAL ENGINEER:
Lynch, Harrison, & Brumleve, Inc
550 Virginia Avenue
Indianapolis, IN 46203
Phone: (317)-423-1550

MECHANICAL/ELECTRICAL ENGINEER:
Loftus Engineering, Inc.
201 South Capitol Avenue, Suite 310
Indianapolis, IN 46225
Phone: (317) 352-5822

TECHNOLOGY DESIGN:
Design 27
1650 East 49th Street
Indianapolis, IN 46205
Phone: (317) 536-8000

CIVIL ENGINEER:
The Schneider Corporation
Historic Fort Harrison
530 E. Ohio Street, Suite G
Indianapolis, IN 46204
Phone: (317) 655-7777

This Addendum is issued in accordance with the provisions of Contract Documents and becomes a part of the Contract Documents as provided therein. The information contained herein modifies the original Bidding Documents dated October 4, 2021 and all prior Addenda as applicable. Requirements of the original Bidding Documents and previous Addenda remain in effect except as modified by this Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

PART 1 – GENERAL CLARIFICATIONS (BIDDER QUESTIONS & RESPONSE)

1. Response to Landscape Architecture questions will be distributed in Addendum 04 on Monday, 11/1/2021.

PART 2 – PROJECT MANUAL CHANGES

1. **SECTION 033000 – CAST IN PLACE CONCRETE**
   a. See revised section.
   b. Add the following:
      1. **2.11 Waterstops**
      2. **2.12 Vapor Retarders**

2. **SECTION 071326 – SELF-ADHERING SHEET WATERPROOFING**
   a. Add to Paragraph 2.1.A.1 to read: **"n. Tremco"**

3. **SECTION 072726 – FLUID APPLIED MEMBRANE AIR BARRIERS**
   a. Add to Paragraph 2.3.A.1.a to read: **"3. Tremco"**

4. **SECTION 263323 – SMALL INVERTER SYSTEMS**
   a. See revised section.
   b. Add Paragraph 2.1.B.4 to read: "4. Myers Emergency Power Systems."

PART 3 – DRAWING SHEET CHANGES

1. **SHEET A-001 – GENERAL NOTES, SYMBOLS, AND STANDARD MOUNTING HEIGHTS**
   a. See revised sheet.
   b. Revise dimension for centerline of watercloset to be 16" – 18" from sidewalk to centerline.

2. **SHEET A-002 – INT. PARTITION TYPES, STAND. PARTITION DETAILS, FINISH SCHEDULE**
   a. See revised sheet.
   b. Revise dimension for height of electrical devices as required by the plan reviewer to illustrate minimum and maximum.

3. **SHEET A-101 – FIRST FLOOR PLAN**
   a. See revised sheet.
   b. Add plan note to identify fixed banquette furniture and linear bar grille as required by plan

reviewer.

4. SHEET A-102 – CLERESTORY PLAN – LOWER ROOF PLAN

a. See revised sheet.
b. Add roof drain with overflow detail F7 and section detail view mark on plan to reference roof drain detail.

5. SHEET A-105 – UPPER ROOF PLAN

a. See revised sheet.
b. Add section detail view mark for roof drain with overflow detail.

6. SHEET A-131 – REFLECTED CEILING PLAN

a. See revised sheet.
b. Clarify location of ceiling access panels. Coordinate final location of VAV box and access door.
c. Add ceiling access panel to RCP Legend, additional notes.
d. Add clarifying notes for mechanical unit in ceiling of North Vestibule.

7. SHEET A-351 – EXTERIOR DETAILS

a. See revised sheet.
b. Updated detail C6 to remove L3x3 angle at top of stud wall and replace with (2) 2x4 blocking continuous below top plate.

8. SHEET A-352 – EXTERIOR DETAILS

a. See revised sheet.
b. Updated detail E1 to remove L3x3 angle at top of stud wall and replace with (2) 2x4 blocking continuous below top plate.

9. SHEET A-402 – ENLARGED PLANS – RESTROOMS

a. See revised sheet.
b. Revise dimension for centerline of watercloset to be 16” – 18” from sidewalk to centerline.

10. SHEET A-502 – INTERIOR ELEVATIONS

a. See revised sheet.
b. Revise note in detail A1 as indicated.

11. SHEET A-521 – INTERIOR DETAILS

a. See revised sheet.
b. Revise detail C6.

12. **SHEET M201 – FIRST FLOOR MECHANICAL PLAN**

a. See revised sheet.
b. Revise Plan Note 10 as indicated on attached Drawing.

13. **SHEET M401 – ENLARGED MECHANICAL ROOM PLAN**

a. See revised sheet.

b. Detail callout of “In-Line Horizontal Fan Detail” and shifted RF-1 upstream allowing for straight ductwork before transition to and from fan as indicated on attached Drawing.
c. Clarification: The supply and return ductwork to AHU-1 is to be double wall; reference Specification Section 233113 for further information.
d. Changed supply ductwork to 30”x42” for AHU-1 as indicated on attached Drawing.

14. **SHEET M503 – MECHANICAL DETAILS**
    a. See revised sheet.
    b. Revise Detail 1 “Multi-Condensing Unit Refrigerant Piping Diagram” as indicated on attached Drawing.

15. **SHEET M602 – HVAC INSTRUMENTATION AND CONTROL SCHEMATICS**
    a. See revised sheet.
    b. Revise “AHU-1 Control Schematic” section F as indicated on attached Drawing.

16. **SHEET M603 – HVAC INSTRUMENTATION AND CONTROL SCHEMATICS**
    a. See revised sheet.
    b. Revise “AHU-2 Control Schematic” section E as indicated on attached Drawing.

17. **SHEET M701 – MECHANICAL SCHEDULES**
    a. See revised sheet.
    b. Revise “Hot Water Cabinet Heater/Propeller Unit Heater Schedule” as indicated on attached Drawing.
    c. Revise “Grille/Register and Diffuser Schedule” for RG-3, SG-2, and SG-3 as indicated on attached Drawing.
    d. Revise “Round Floor Diffusers” type as indicated on attached Drawing.

18. **SHEET P200 – UNDERFLOOR PLUMBING PLAN**
    a. See revised sheet.
    b. Add trap primers for floor drains as indicated on attached Drawing.

19. **SHEET P201 – FIRST FLOOR PLUMBING PLAN**
    a. See revised sheet.
    b. Revise sheet to include shut off valve before trap primer as indicated on attached Drawing.

20. **SHEET E001 – ELECTRICAL SYMBOLS AND ABBREVIATIONS**
    a. See revised sheet.
    b. Updated ceiling exit signs on Electrical Symbol Legend as indicated on attached Drawing.

21. **SHEET E201 – FIRST FLOOR LIGHTING PLAN**
    a. See revised sheet.
    b. Updated sheet to include additional exit signs as indicated on attached Drawing.

22. **SHEET E301 – FIRST FLOOR POWER PLAN**
    a. See revised sheet.
    b. Under Plan Note #55: Delete words: “ADD ALTERNATE BID” at beginning of plan note.

Work indicated is part of Base Bid.

c. Under Plan Note #56: Delete words: “ADD ALTERNATE BID” at beginning of plan note. Work indicated is part of Base Bid.

23. **SHEET E801 – LUMINAIRE SCHEDULE**
    a. See revised sheet.
    b. Updated lumen and wattages and manufacturers on the Luminaire (Light Fixture) Schedule as indicated on attached Drawing.

PART 4 – ATTACHMENTS

1. **SECTION 033000 – CAST-IN-PLACE CONCRETE**
2. **SHEET A-001 – GENERAL NOTES, SYMBOLS AND ABBREVIATIONS**
3. **SHEET A-002 – INT. PARTITION TYPES, STAND. PARTITION DETAILS, FINISH SCHEDULE**
4. **SHEET A-101 – FIRST FLOOR PLAN**
5. **SHEET A-102 – CLERESTORY PLAN – LOWER ROOF PLAN**
6. **SHEET A-105 – UPPER ROOF PLAN**
7. **SHEET A-131 – FIRST FLOOR REFLECTED CEILING PLAN**
8. **SHEET A-351 – EXTERIOR DETAILS**
9. **SHEET A-352 – EXTERIOR DETAILS**
10. **SHEET A-402 – ENLARGED PLANS - RESTROOMS**
11. **SHEET A-502 – INTERIOR ELEVATIONS**
12. **SHEET A-521 – INTERIOR DETAILS**
13. **SHEET M201 – FIRST FLOOR MECHANICAL PLAN**
14. **SHEET M401 – ENLARGED MECHANICAL ROOM PLAN**
15. **SHEET M503 – MECHANICAL DETAILS**
16. **SHEET M602 – HVAC INSTRUMENTATION AND CONTROL SCHEMATICS**
17. **SHEET M603 – HVAC INSTRUMENTATION AND CONTROL SCHEMATICS**
18. **SHEET M701 – MECHANICAL SCHEDULES**
19. **SHEET P200 – UNDERFLOOR PLUMBING PLAN**
20. **SHEET P201 – FIRST FLOOR PLUMBING PLAN**
21. **SHEET E001 – ELECTRICAL SYMBOLS AND ABBREVIATIONS**
22. **SHEET E201 – FIRST FLOOR LIGHTING PLAN**
23. **SHEET E801 – LUMINAIRE SCHEDULE**

END OF ADDENDUM 03

SECTION 033000 – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.

D. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
2. Environmental Product Declaration (EPD): For each product.

1.4 INFORMATIONAL SUBMITTALS

A. Material certificates.

B. Material test reports.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

C. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

D. Preinstallation Conference: Conduct conference at Project site, at least two weeks prior to concrete placement.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
   a. Contractor's superintendent.
   b. Independent testing agency responsible for concrete design mixtures.
   c. Ready-mix concrete manufacturer.
   d. Concrete subcontractor.
   e. Finish flooring subcontractor.

2. Review testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, forms and form removal limitations, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185 plain, fabricated from as-drawn steel wire into flat sheets.

C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I, gray. Supplement with the following:
   a. Fly Ash: ASTM C 618, Class C.

2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

B. Water: ASTM C 94 and potable.

2.4 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding

those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494, Type A.
2. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
3. Plasticizing and Retarding Admixture: ASTM C 1017 Type II.

2.5 FIBER REINFORCEMENT

A. Synthetic Micro-Fiber: fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III. Do not use fiber reinforcing in slabs scheduled to receive polished concrete finish.

2.6 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Curing Compounds for Other Concrete (excluding substrates for resilient or epoxy flooring):

1. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.7 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips.

2.8 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Admixtures at Other Concrete: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

C. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength at 28 Days: As indicated on Drawings.
2. Maximum Water-Cementitious Materials Ratio: As indicated on Drawings.
3. Slump Limit: As indicated on Drawings.
4. Air Content: As indicated on Drawings.
5. Synthetic Micro-Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.5 lb/cu. yd.

2.9 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116 and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

2.11 WATERSTOPS

A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.

1. Product: CETCO; Volclay Waterstop-RX.

2.12 VAPOR RETARDERS

A. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape. Minimum 10-mil thickness. Maximum 0.036 perms.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Chamfer exterior corners and edges of permanently exposed concrete where exposed.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
   1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.4 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

3.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

C. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.

D. Avoid placing concrete if rain, snow, or frost is forecast within 24 hours. Protect fresh concrete from moisture and freezing.

E. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer’s written recommendations.

F. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

G. Cold-Weather Placement: Comply with ACI 306.1.

H. Hot-Weather Placement: Comply with ACI 301.

3.6 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view.

C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.7 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to receive trowel finish and non-slip broom finishes.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill

low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth granular texture.

1. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.
   a. Finish surfaces to the following tolerances, measured within 24 hours according to ASTM E 1155 for a randomly trafficked floor surface:
   b. Specified overall values of flatness, F(F) 35; and levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and levelness F(L) 17; for slabs-on-grade.
   c. Specified overall values of flatness, F(F) 30; and levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and levelness, F(L) 15; for suspended slabs.

2. Broom Finish: Apply a broom finish to exterior concrete stage floor, platforms, steps, ramps, and elsewhere as indicated. Coordinate finish of exterior walks, stoops, pavements, etc. with the Civil Drawings and Specifications.

3.8 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compounds: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.9 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION 033000

ABBREVIATIONS

A	
A/C	AIR CONDITIONING
ACOUS.	ACOUSTICAL
A.C.T.	ACOUSTICAL CEILING TILE
ACP	ACOUSTICAL CEILING PANEL
ADA	AMERICANS W/DISABILITIES ACT
ADAAG	AMERICANS W/DISABILITIES ACCESSIBILITY GUIDELINES
ADJ.	ADJUSTABLE
A/E	ARCHITECT/ENGINEER
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ALUM.	ALUMINUM
A.P.	ACCESS PANEL
ARCH.	ARCHITECT/ARCHITECTURAL
A.V.	AUDIO/VISUAL
B	
BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
B/O	BOTTOM OF
B.O.W.	BOTTOM OF WALL
BSMT.	BASEMENT
C	
CAB.	CABINET
C.F.C.I.	CONTRACTOR FURNISHED-CONTRACTOR INSTALLED
C.G.	CORNER GUARD
C.I.P.	CAST-IN-PLACE
C.J.	CONTROL JOINT
CL	CENTERLINE
CLG.	CEILING
CLR.	CLEAR(ANCE)
C.M.	CONSTRUCTION MANAGER
CMP	COMPOSITE METAL PANON
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
COOR.	COORDINATE
CPT.	CARPET
C.T.	CERAMIC TILE
C.W.	COLD WATER
D	
D.E.F.S.	DIRECT APPLIED EXTERIOR FINISH SYSTEM
DEPT.	DEPARTMENT
DET.	DETAIL
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
D.M.B.	DRY MARKER BOARD
DN	DOWN
DS	DOWNSPOUT
DWG.	DRAWING
E	
EA.	EACH
E.C.	ELECTRICAL CONTRACTOR
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
E.J.	EXPANSION JOINT
EL	ELEVATION
ELEC.	ELECTRIC/ELECTRICAL
ELEV.	ELEVATOR/ELEVATION
ENGR.	ENGINEER
E.P.	ELECTRICAL PANEL
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.C.	ELECTRIC WATER COOLER
EXIST.	EXISTING
EXP.	EXPOSED
EXT.	EXTERIOR

F	
F-R	FIRE RESISTIVE
FAB.	FABRICATE/FABRICATOR
F.C.U.	FAN COIL UNIT
F.D.	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.F.E.	FINISH FLOOR ELEVATION
F.F.&E.	FURNISHINGS, FIXTURES AND EQUIPMENT
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH(ED)
FLR.	FLOOR
FLUOR.	FLUORESCENT
F/O	FACE OF
F.O.	FINISH OPENING
F.O.B.	FACE OF BLOCK
F.O.BR.	FACE OF BRICK
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.G.	FACE OF GYPSUM BD.
F.O.S.	FACE OF STUD
FPRF.	FIREPROOF
FT.	FOOT/FEET
F.V.	FIELD VERIFY
G	
GA.	GAUGE
G.C.	GENERAL CONTRACTOR
GEN.	GENERAL
GL.	GLASS
G.W.B./ GWB	GYPSUM WALL BOARD
H	
H.	HEIGHT
HB	HOSE BIBB
HDWR.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HT.	HEIGHT
HVAC.	HEATING, VENTILATION & A.C.
H.W.	HOT WATER
I	
I.D.	INSIDE DIAMETER
INCAN.	INCANDESCENT
INFO.	INFORMATION
INSUL.	INSULATION
INT.	INTERIOR
J	
JAN.	JANITOR
J.C.	JANITOR CLOSET
JST. BRG.	JOIST BEARING
JT.	JOINT
L	
L	LENGTH
LAV.	LAVATORY
LB.	POUND
L.H.	LEFT HAND
L.L.H.	LONG LEG HORIZONTAL
L.L.O.	LONG LEG OUT
L.L.V.	LONG LEG VERTICAL

M	
MAX.	MAXIMUM
MB	MARKER BOARD
M.C.	MECHANICAL CONTRACTOR
M.D.F.	MEDIUM DENSITY FIBERBOARD
MECH.	MECHANICAL
M.E.P.	MECH./ELECT./PLUMBING
MFR.	MANUFACTURER(ING)
M.H.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
N	
N.A.F.	NO APPLIED FINNISH
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O	
O.A.	OVER ALL
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.C.I.	OWNER FURNISHED-CONTRACTOR INSTALLED
O.F.O.I.	OWNER FURNISHED-OWNER INSTALLED
O.H.	OPPOSITE HAND
OPG.	OPENING
OPP.	OPPOSITE
P	
P.L.	PROPERTY LINE
P. LAM	PLASTIC LAMINATE
PLAS.	PLASTER
PR.	PAIR
PREFAB.	PREFABRICATED
PT. BD.	PARTICLE BOARD
PTD.	PAINTED
PWD.	PLYWOOD
Q	
Q.T.	QUARRY TILE
R	
R	RADIUS
R.C.P.	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
REF.	REFERENCE
REFL.	REFLECTED
REINF.	REINFORCED
RESIL.	RESILIENT
R.H.	RIGHT HAND
RM	ROOM
R.O.	ROUGH OPENING
S	
SCHED.	SCHEDULE
S.D.	SOAP DISPENSER
SECT.	SECTION
S.F.	SQUARE FEET
SHT.	SHEET
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPEND(ED)
SYM.	SYMMETRICAL

T	
T.	THICKNESS
T.B.	TACK BOARD
TBD	TO BE DETERMINED
T.C.	TOP OF CURB
T.D.	TOP OF DECK
TECH.	TECHNICAL
TEL.	TELEPHONE
TEMP.	TEMPORARY
T&G	TONGUE AND GROOVE
T.M.	TOP OF MASONRY
TMPRD.	TEMPERED
T/O	TOP OF
T.P.	TOP OF PAVEMENT
T.S.	TOP OF STEEL
T.W.	TOP OF WALL
TYP.	TYPICAL
U	
U.N.O.	UNLESS NOTED OTHERWISE
UTIL.	UTILITY
U.V.	UNIT VENTILATOR
V	
VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
VIF	VERIFY IN FIELD
W	
W	WIDE/WIDTH
W/	WITH
W.C.	WATER CLOSET
WD	WOOD
W.H.	WATER HEATER
W/O	WITHOUT
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC

MISCELLANEOUS

∠ ANGLE

℄ CENTER LINE

NUMBER

ARCHITECTURAL MATERIAL LEGEND

- EARTH
- GRANULAR FILL
- SAND, GROUT AS NOTED
- CAST-IN-PLACE CONCRETE
- PRECAST CONCRETE, CAST STONE
- CONCRETE MASONRY UNIT
- BRICK MASONRY
- STONE: LIMESTONE, GRANITE, MARBLE OR AS NOTED
- TERRA COTTA, STRUCTURAL CLAY TILE
- METAL: TYPE AS NOTED
- METAL: ROLLED SHAPES
- WOOD FRAMING / BLOCKING: CONTINOUS
- WOOD SHIM
- FINISHED WOOD SHOWN CUT AND ELEVATION
- ENGINEERED WOOD: GLUE LAMINATED
- WOOD FLOOR, WOOD SHINGLES, OR SIDING
- PLYWOOD
- GLASS FIBER REINFORCED CONCRETE SIDING OR TRIM
- EIFS
- SPRAYED FIREPROOFING SHOWN ON ROLLED SHAPE
- BATT INSULATION: THERMAL OR ACOUSTICAL, UNO
- RIGID INSULATION: THERMAL, ACOUSTICAL, OR SAFING
- GYPSUM BOARD
- PLASTER ON METAL LATH
- SHEATHING: GYPSUM, OR AS NOTED
- ACOUSTICAL CEILING TILE
- RESINOUS FLOORING: TERRAZO, TROWEL-ON, UNO
- TILE: CERAMIC, QUARRY, UNO
- CARPET, CARPET TILE (DETAIL)
- GRATING SHOWN IN PLAN
- GRATING
- INSULATED GLASS: (SMALL SCALE)
- INSULATED GLASS: (DETAIL)
- MEMBRANE: WATERPROOF, ROOF, DAMPPROOFING
- AIR BARRIER SYSTEM

NOTE: PATTERNS SHOWN REPRESENT CUT MATERIALS IN PLAN OR SECTION, UNLESS NOTED OTHERWISE ABOVE.

ARCHITECTURAL SYMBOLS LEGEND

- COLUMN GRIDS — *EXISTING* / *NEW*
- ELEVATION DATUM REFERENCE
- ENLARGED DRAWING REFERENCE (1 / A101)
- BUILDING SECTION CUT REFERENCE — *DRAWING NUMBER* / *SHEET NUMBER*
- WALL SECTION CUT REFERENCE — *DRAWING NUMBER* / *SHEET NUMBER*
- ELEVATION REFERENCE — *DRAWING NUMBER* / *SHEET NUMBER*
- DOOR / DOOR NUMBER (101)
- KEY NOTE (SHAPE VARIES) (CT-1)
- WINDOW NUMBER (W10)
- ALIGN DESIGNATED SURFACES
- NORTH ARROW — *INDICATES NORTH DIRECTION*
- REVISION REFERENCE
- 1/4" / FOOT — ROOF SLOPE - ARROW POINTS TOWARD DRAIN
- Room Name 101 — ROOM NAME AND NUMBER
- PARTITION TYPE SYMBOL* (M8A.D.2.A / S2A.P) — **REFER TO INTERIOR PARTITION LEGEND*
- ACCESSIBLE PLUMBING FIXTURES INDICATED WITH HATCH ON FLOOR PLANS

GENERAL ARCHITECTURAL NOTES

A. THESE GENERAL NOTES APPLY TO ARCHITECTURAL DRAWINGS.

B. WORK SHOWN ON THE DRAWINGS SHALL BE BASE BID UNLESS SPECIFICALLY NOTED TO BE BY ALTERNATE BID.

C. FIELD VERIFY EXISTING FINISH FLOOR ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MATCH NEW FLOOR ELEVATIONS WITH EXISTING UNLESS NOTED OTHERWISE.

D. DIMENSIONS TO EXISTING CONSTRUCTION ARE TO FINISH SURFACE. DIMENSIONS TO NEW CONSTRUCTION ARE TO STRUCTURAL CENTERLINE, FACE OF CONCRETE, FACE OF MASONRY CONSTRUCTION, OR TO FACE OF EXTERIOR OF INTERIOR PARTITION TYPE UNLESS NOTED OTHERWISE. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO STARTING WORK AND NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND BETWEEN CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS.

E. DO NOT SCALE DRAWINGS. REFER DIMENSION QUESTIONS TO ARCHITECT FOR INTERPRETATION.

F. DOOR AND FRAME NUMBERS CORRESPOND TO RESPECTIVE ROOM NUMBERS. IN ROOMS WITH MULTIPLE OPENINGS, A SUFFIX HAS BEEN ADDED TO DOOR NUMBERS, I.E., A101-B.

G. LOCATE INSIDE FACE OF DOOR FRAME JAMBS 6 INCHES FROM FINISH FACE OF ADJACENT WALLS UNLESS NOTED OTHERWISE.

H. COORDINATE EQUIPMENT WORK WITH MANUFACTURERS AND SUPPLIERS TO INSURE PROPER ROUGH-IN CLEARANCES FOR INSTALLATION, USE AND MAINTENANCE.

I. VERTICAL COURSING FOR NEW MASONRY WALL CONSTRUCTION SHALL EQUAL EIGHT INCHES (8") FOR ONE CONCRETE MASONRY UNIT PLUS ONE MORTAR JOINT AND THREE BRICK COURSES PLUS THREE MORTAR JOINTS, UNLESS NOTED OTHERWISE.

J. PROVIDE CONTROL JOINTS (C.J.) IN MASONRY CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN VERTICAL JOINTS OF 30'-0" AND MAXIMUM DISTANCE BETWEEN OUTSIDE CORNERS AND JOINTS OF 8'-0". PROVIDE JOINTS BETWEEN INTERIOR LOAD BEARING AND NON-LOAD BEARING PARTITIONS, AT ALL ABRUPT CHANGES IN WALL HEIGHT, AT CHANGES IN PARTITION THICKNESS AND AT PLASTER LOCATIONS. VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.

K. PROVIDE CONTROL JOINTS (C.J.) IN GYPSUM BOARD WALL CONSTRUCTION AS INDICATED. VERIFY FINAL CONTROL JOINT LOCATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS WITH ARCHITECT PRIOR TO STARTING WORK. PROVIDE MAXIMUM SPACING BETWEEN JOINTS AS FOLLOWS:
   a. CEILINGS: INSTALL CONTROL JOINTS IN CEILINGS PER ASTM C840 IN ALL CEILINGS WITH AREA EXCEEDING 250 S.F., SPACED 50'-0" O.C. MAXIMUM. CONTROL JOINTS ALSO TO BE INSTALLED WHERE FRAMING OR FURRING CHANGES DIRECTION. REFER TO REFLECTED CEILING PLANS FOR DESIRED LOCATIONS.
   b. WALLS: INSTALL CONTROL JOINTS IN INTERIOR PARTITIONS AND FURRING PER ASTM C840 IN AREAS EXCEEDING 30'-0", SPACED 30'-0" O.C. MAXIMUM. REFER TO INTERIOR ELEVATIONS FOR DESIRED LOCATIONS.

L. METAL STUD SPACING SHALL BE 16" ON CENTER MAXIMUM UNLESS OTHERWISE REQUIRED BY DELEGATED DESIGN OR NOTED OTHERWISE.

M. VERIFY MOUNTING HEIGHTS OF ACCESSORIES, EQUIPMENT, DOOR HARDWARE, CASEWORK, ETC., AND PROVIDE SOLID BLOCKING BEHIND ITEMS REQUIRING ANCHORAGE. PROVIDE FIRE TREATED WOOD BLOCKING OR METAL STRAPS BETWEEN FRAMING MEMBERS AS REQUIRED TO SUPPORT WEIGHT AND USE OF ITEMS TO BE SUPPORTED. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS. COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR INTERPRETATION.

N. PROVIDE SEALANT AT PERIMETERS OF METAL FRAMES AT OPENINGS AND AT JOINTS BETWEEN DISSIMILAR MATERIALS SUCH AS GYPSUM BOARD AND MASONRY, MASONRY AND CONCRETE, CASEWORK AND WALLS, ETC. UNLESS OTHERWISE INDICATED.

O. THESE NOTES ARE APPLICABLE TO THIS BID PACKAGE ONLY AND MAY NOT BE APPLICABLE TO FUTURE BID PACKAGES. SOME WORK WHICH WAS INCLUDED IN PREVIOUS BID PACKAGES OR WILL BE INCLUDED IN FUTURE BID PACKAGES IS SHOWN ON THESE CONSTRUCTION DOCUMENTS FOR REFERENCE PURPOSES ONLY AND IS IDENTIFIED AS SUCH.

P. DO NOT BEGIN WORK THAT MAY REQUIRE COORDINATION, SUCH AS CEILING INSTALLATION, PRIOR TO FINAL SUBMITTAL TO ARCHITECT OF COORDINATION DRAWINGS FOR MEP ITEMS BOTH ABOVE CEILING AND IN CEILING, NOR PRIOR TO RESOLUTION AND APPROVAL OF COORDINATION ISSUES.

Q. REFER TO LIFE SAFETY PLAN DRAWINGS AND CODE SUMMARY FOR FIRE-RATED FLOOR, WALL, CEILING AND ROOF LOCATIONS. INSTALL FIRESTOPPING AT PENETRATIONS IN RATED CONSTRUCTION AND AT TOPS OF RATED WALLS.

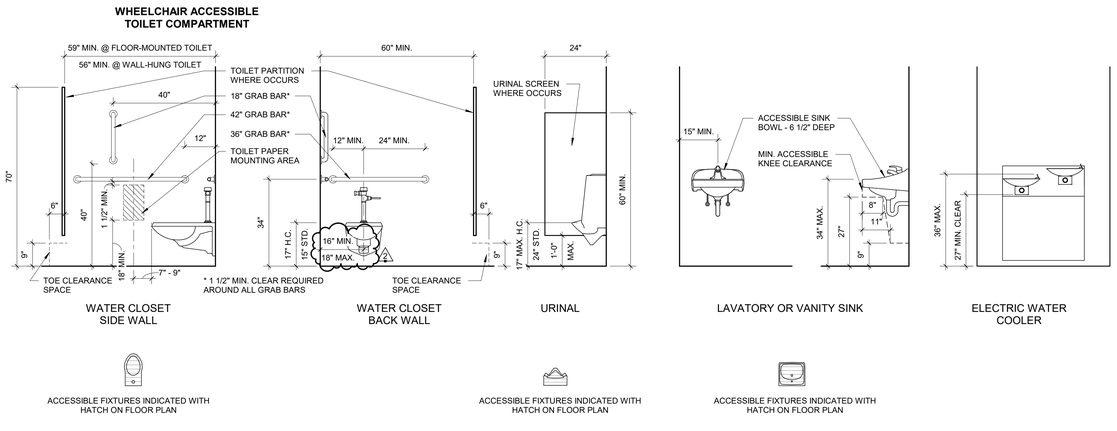
R. REFER TO STRUCTURAL DRAWINGS FOR FOOTING AND FOUNDATION DRAINS, UNDERSLAB DRAINAGE AND BACKFILL REQUIREMENTS.

S. REFER TO LANDSCAPE AND CIVIL DRAWINGS FOR SITE ELEMENTS AND IMPROVEMENTS ADJACENT TO BUILDING EXTERIOR.

T. REFER TO CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS. 100'-0" = 866.20'

U. REFER TO A-002 FOR PARTITION CONSTRUCTION TYPE.

STANDARD-PLUMBING FIXTURE REQUIREMENTS



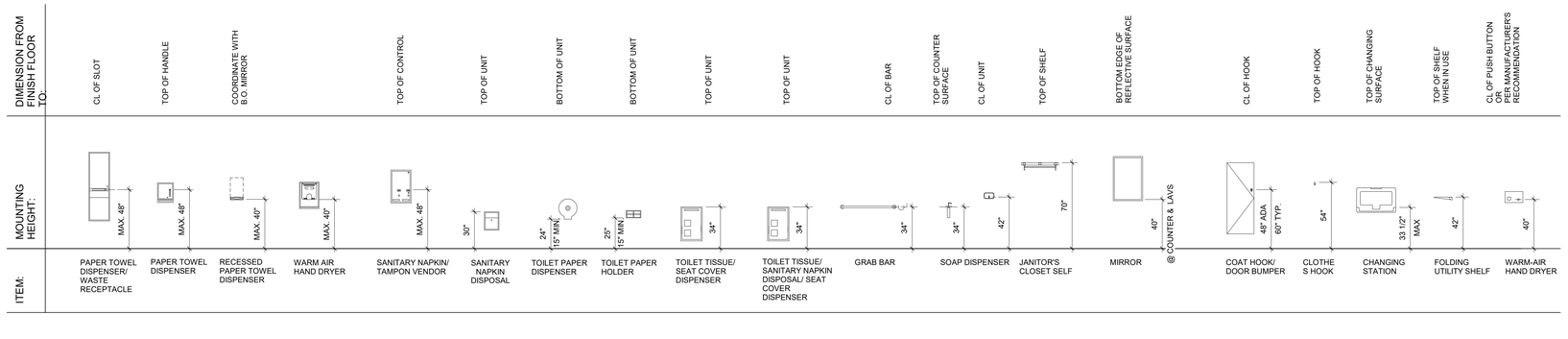
WATER CLOSET SIDE WALL | WATER CLOSET BACK WALL | URINAL | LAVATORY OR VANITY SINK | ELECTRIC WATER COOLER

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN

ACCESSIBLE FIXTURES INDICATED WITH HATCH ON FLOOR PLAN

STANDARD TOILET ROOM ACCESSORY MOUNTING HEIGHTS



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SEAL | DATE

SHEET ISSUE

1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

PROJECT NO. 18005.000

SHEET TITLE
GENERAL NOTES, SYMBOLS, AND STANDARD MOUNTING HEIGHTS

SHEET NUMBER
A-001

10/28/2021 11:35:25 PM

FINISH SCHEDULE

CT-01

FINISH TYPE	TAG	MANUFACTURER	FINISH DESCRIPTION					
			STYLE	SIZE	PRODUCT NUMBER	COLOR	INSTALL NOTES	COMMENTS
WALL								
ALUMINUM DRYWALL TRIM	ADT-01	FRY REGLET	WALL COVER TRIM OUTSIDE CORNER	7/32" EXPOSED EDGE; 1-3/4" LEG TO TAPE AND JOINT	WCTOSC	PROVIDE ARCHITECT FULL RANGE OF COLORS FOR SELECTION	INSTALL INSTALL DRYWALL TRIM FROM TOP OF BASE TO UNDERSIDE OF CEILING. REF TO RCP FOR HEIGHT. REFER TO DETAIL C6/A-522	DIGITAL WALL COVERING CORNER CONDITIONS
ALUMINUM DRYWALL TRIM	ADT-02	FRY REGLET	WALL COVER TRIM TERMINATION	7/32" EXPOSED EDGE; 1-3/4" LEG TO TAPE AND JOINT	WCTBT	PROVIDE ARCHITECT FULL RANGE OF COLORS FOR SELECTION	INSTALL DRYWALL TRIM FROM TOP OF BASE TO UNDERSIDE OF CEILING. REF TO RCP FOR HEIGHT. REFER TO DETAIL C6/A-522	DIGITAL WALL COVERING EDGE CONDITIONS
ACOUSTICAL TREATMENT	AT-01	ARMSTRONG	TECTUM PANEL ART WALLS	SHAPES: 7-1/2" HEXAGON	1111	CUSTOM COLORS (12 COLORS TOTAL) REFER TO ELEVATION FOR LOCATIONS	MOUNT HEXGON SHAPES TO 3/4" PAINTED PLYWOOD	
CORNER GUARD	CG-01	CONSTRUCTION SPECIALTIES	APPLIED CHANNEL/END WALL GUARD	2" LEG, 1/4" RADIUS, PROVIDE FULL HEIGHT AFF TO CEILING	SSM-25N (PVC-FREE)	933 MISSION WHITE	INSTALL ABOVE BASE UP TO INSTALL TO UNDERSIDE OF CEILING. REF RCP FOR HEIGHT	
CORNER GUARD	CG-02	CONSTRUCTION SPECIALTIES	APPLIED CHANNEL/END WALL GUARD	2" LEG, 1/4" RADIUS, PROVIDE FULL HEIGHT AFF TO CEILING	SSM-25AN (PVC-FREE)	1526 BALTIC BLUE	INSTALL ABOVE BASE UP TO INSTALL TO UNDERSIDE OF CEILING. REF RCP FOR HEIGHT	
CORNER GUARD	CG-03	CONSTRUCTION SPECIALTIES	END WALL APPLIED CORNER GUARD	2" LEG, 1/4" RADIUS, PROVIDE FULL HEIGHT AFF TO CEILING	SSM-25AN (PVC-FREE)	933 MISSION WHITE	INSTALL ABOVE BASE UP TO INSTALL TO UNDERSIDE OF CEILING. REF RCP FOR HEIGHT	
PORCELAIN TILE	CT-01	DALTILE	REMEDY	3/8" x 2-3/8" x 9-1/2" (ACTUAL SIZE: 1.811 x 9.016)	N/A	RANDOM BLEND: 50% HERBAL RD21 & 50% HYDRO RD22	1/16" GROUT JOINT	ALTERNATE AT FIREPLACE WALL
PORCELAIN TILE	CT-02	DALTILE	COLOR WHEEL CLASSIC	5/16" THICK x 4" x 4"	N/A	RANDOM BLEND: 75% DESERT GRAY SEMI-GLOSS & 25% DESERT GRAY MATTE	1/16" GROUT JOINT	ALTERNATE WITHIN RESTROOMS
HIGH PERFORMANCE COATING	HPC-01	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7008	ALABASTER		WHITE
HIGH PERFORMANCE COATING	HPC-02	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7504	KEYSTONE GRAY		PUBLIC - WEST PORCH
HIGH PERFORMANCE COATING	HPC-03	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6457	KIND GREEN		PUBLIC - SOUTH PORCH
PAINT	PT-01	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7008	ALABASTER		WHITE
PAINT	PT-02	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7504	KEYSTONE GRAY		PUBLIC - WEST PORCH
PAINT	PT-03	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6457	KIND GREEN		PUBLIC - SOUTH PORCH
PAINT	PT-04	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6003	PROPER GRAY		RESTROOMS, FIELD
PAINT	PT-05	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6004	MINK		RESTROOMS, ACCENT
PAINT	PT-06	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6386	NAPERY		YELLOW 1 (LIGHT)
PAINT	PT-07	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6387	COMPATIBLE CREAM		YELLOW 2 (MID)
PAINT	PT-08	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 9023	DAKOTA WHEAT		YELLOW (DARK)
PAINT	PT-09	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7612	MOUNTAIN STREAM		STAFF, ACCENT
PAINT	PT-10	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 0041	DARD HUNTER GREEN		FIREPLACE, ACCENT
PAINT	PT-11	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW-6804	DIGNITY BLUE		ACOUSTIC WALL - BLUE 1
PAINT	PT-12	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW-6803	DANUBE		ACOUSTIC WALL - BLUE 2
PAINT	PT-13	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW-6801	REGALE BLUE		ACOUSTIC WALL - BLUE 3
PAINT	PT-14	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6748	GREENS		ACOUSTIC WALL - GREEN 1
PAINT	PT-15	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6747	ARGYLE		ACOUSTIC WALL - GREEN 2
PAINT	PT-16	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6745	LARK GREEN		ACOUSTIC WALL - GREEN 3
PAINT	PT-17	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6699	CRISPY GOLD		ACOUSTIC WALL - YELLOW 1
PAINT	PT-18	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6697	NUGGET		ACOUSTIC WALL - YELLOW 2
PAINT	PT-19	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 6695	MIDDAY		ACOUSTIC WALL - YELLOW 3
PAINT	PT-20	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 9141	WATERLOO		ACOUSTIC WALL - GRAY 1
PAINT	PT-21	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 9140	BLUSTERY SKY		ACOUSTIC WALL - GRAY 2
PAINT	PT-22	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 9138	STARDEW		ACOUSTIC WALL - GRAY 3
PAINT	PT-23	SHERWIN WILLIAMS	PER SPECIFICATION	N/A	SW 7048	URBANE BRONZE		HOLLOW METAL DOORS AND FRAMES
TACK BOARD	TB-01	KOROSEAL	TAC-WALL	REFER TO DRAWINGS (STANARD SIZE: 48"W)	82	QUARRY		STAFF OFFICE
TACK BOARD	TB-02	KOROSEAL	TAC-WALL	REFER TO DRAWINGS (STANARD SIZE: 48"W)	09	ONYX		HERITAGE WALL
WALL COVERING	WC-01	WOLF GORDON	DIGITAL VINYL WALLCOVERING, CLAIR PVC-FREE SUBSTRATE	REFER TO DRAWINGS (STANARD SIZE: 10'-0"H, REPEAT 24"W	DEPTH OF DOTS DDOD632	OCEAN	INSTALL BELOW BASE; STRAIGHT HANG, STRAIGHT MATCH; UTILIZE ADT-01&02 AT CORNER AND EDGE CONDITIONS. REFER TO DETAIL C6/A-522; WORK WITH WG CUSTOMS LAB FOR FINAL SIZE AND SCALE NEEDS; CONTACT NATALIE KNEZEVIC (WOLF GORDON ACCOUNT EXECUTIVE) AT 502-200-3762 OR NATALIE.KNEZEVIC@WOLFGORDON.COM	
BASE								
RESILIENT BASE	RB-01	ROPPE	RUBBER ROLLED GOODS	4"H		193 BLACK BROWN	PROVIDE COVE AT CARPET; AND STRAIGHT AT HARD SURFACES	GENERAL WALL BASE
RESILIENT BASE	RB-02	ROPPE	RUBBER ROLLED GOODS	4"H		175 SLATE	PROVIDE COVE AT CARPET; AND STRAIGHT AT HARD SURFACES	RESTROOM WALL BASE, BASE BID; NOT TO USE IF ALTERNATE 3 IS ACCEPTED.
FLOOR								
CARPET TILE (WALK OFF)	CPT-01	SHAW CONTRACT	STEPPIN OUT - ENTRILLE TILE	24" x 24" x .263"	5T033	STERLING 31557	QUARTER TURN	VESTIBULES
CARPET TILE	CPT-02	SHAW CONTRACT	GRADATION	.124" x 24" x 24"	5T339	SHADOW 39760	QUARTER TURN; STACK BOND	CARPET, FIELD (NEUTRAL)
CARPET TILE	CPT-03	SHAW CONTRACT	GRADATION	.124" x 24" x 24"	5T339	MINT 39327	QUARTER TURN; STACK BOND	CARPET, ACCENT (GREEN)
RESILIENT FLOOR	RF-01	MOHAWK GROUP	PIVOT POINT ERT: WOOD	.12" (3MM) THICK; 7" x 48"	CO113	LOTUS - 818	GLUE DOWN PER MANUFACTURER RECOMMENDATIONS	
RESILIENT FLOOR	RF-02	MOHAWK GROUP	PIVOT POINT ERT: TEXTILE	.12" (3MM) THICK; 7" x 48"	1446V	RETREAT - 729	GLUE DOWN PER MANUFACTURER RECOMMENDATIONS	MID GRAY
RESILIENT FLOOR	RF-03	ROPPE	RENEW RUBBER TILE, SMOOTH FINISH	1/8" THICK x 19-11/16" x 19-11/16"	978	R122 NATURAL	GLUE DOWN PER MANUFACTURERS RECOMMENDATIONS	BEIGE COLOR
CEILING								
ACOUSTICAL CEILING	ACT-01	ARMSTRONG	CANYON	24"X24"X3/4"	1494	STANDARD WHITE	EDGE TO BE BEVELED TEGULAR 9/16" GRID; GRID FINISH TO BE STANDARD WHITE (WH)	0.60 NRC / 35 CAC / 80% LIGHT REFLECTANCE / 44% RECYCLED CONTENT
ACOUSTICAL CEILING	ACT-02	ARMSTRONG	OPTIMA	24"X72"X3/4"	1982	STANDARD WHITE	EDGE TO BE SQUARE TEGULAR 9/16" GRID; GRID FINISH TO BE MATTE BLIZZARD WHITE (ZW)	0.75 NRC / 35 CAC / 88% LIGHT REFLECTANCE
WOOD CEILING SYSTEM	WDC-01	ARMSTRONG	WOODWORKS LINEAR NOMINAL 4" MODULE - FSC CERTIFIED	96 x 3-3/4 x 3/4" (with 3/4" reveal)	6640W1-CRW	REDUX WOOD WHEAT (CRW); LOW VOC, 20% SHEEN CLEAR TOP COAT	INSTALLATION NOT TO RUN FROM WALL TO WALL- CUT ENDS OF PLANKS TO RECEIVE EDGE BAND EXPOSED ENDS; FIRST AND LAST CARRIERS TO BE NO MORE THAN 4" FROM SIDES OF FLOATING INSTALLATION; PLANKS TO BE STAGGERED, RANDOM JOINTS FOR MONOLITHIC APPEARANCE. APPLY VENEER EDGE BANDING TO MATCH PLANK FACE AT EXPOSED EDGES (DO NOT UTILIZE TRIM AROUND CLOUDS); UTILIZE COMBINATION OF BIOACOUSTIC (BLACK) INFILL PANEL & FACTORY-APPLIED BLACK FLEECE ON EACH PLANK TO COVER REVEALS - REFER TO DETAIL FOR APPLICATION	ALTERNATE AT SOUTH BAR CEILING
MILLWORK/ CASEWORK								
PLASTIC LAMINATE	PL-01	NEVAMAR	TEXTURED	REFER TO DRAWINGS	S7027-T	SMOKY WHITE		PUBLIC - WHITE
PLASTIC LAMINATE	PL-02	ABET LAMINATE	TEXTURED	REFER TO DRAWINGS	856	SEI		STAFF - BLUE
QUARTZ	QTZ-01	DALTILE	ONE QUARTZ SURFACES - MICRO FLECKS	3/4" OR 1-1/4" x 135-7/8" x 78-3/4"	N/A	MORNING FROST NQ30 - POLISHED	ALL CORNERS AND EDGES TO BE MITERED FOR SEAMLESS DEPTH	
SOLID SURFACE	SSM-01	US SURFACES	LIVING STONE SURFACES	REFER TO DRAWINGS	L721	AVALANCHE	ALL CORNERS AND EDGES TO BE MITERED FOR SEAMLESS DEPTH	
TEXTILE	TEX-01	TBD	TBD	REFER TO DRAWINGS	TBD	TBD	TBD	BANQUETTE BACK UPHOLSTERY; APPLY ALLOWANCE FOR $100 / YARD
TEXTILE	TEX-02	TBD	TBD	REFER TO DRAWINGS	TBD	TBD	TBD	BANQUETTE SEAT UPHOLSTERY; APPLY ALLOWANCE FOR $50 / YARD
WOOD	WD-01	N/A	SELECT WHITE OAK, PLAIN SLICED/FLAT SLICED	REFER TO DRAWINGS	N/A	MATCH ARCHITECT'S COLOR SELECTION - SIMILAR TO FLUSH WOOD DOORS (ASPIRO SERIES - COCOA BEAN); MATTE CLEAR FINISH (DEWAXED SHELLAC)	REFER TO ELEVATIONS FOR GRAIN DIRECTION; BOOK MATCH/BALANCE MATCH	
WINDOW								
WINDOW TREATMENT	WT-01	LEGRAND	MANUAL SHADE	FIELD VERIFY		MERMET VERONA DAYLIGHT 3% ECLIPSE	REFER TO DRAWINGS FOR MOUNTING CONFIGUATION	BOD: LEGRAND SOLARFECTIVE TS SERIES MANUAL SHADE
WINDOW TREATMENT	WT-02	LEGRAND	MOTORIZED, DOUBLE	FIELD VERIFY		MERMET VERONA DAYLIGHT 3% ECLIPSE & MERTMET VERONA TWILIGHT BLACKOUT ECLIPSE	REFER TO DRAWINGS FOR MOUNTING CONFIGUATION	BOD: LEGRAND SOLARFECTIVE ES SERIES MOTORIZED SHADE

INTERIOR PARTITION TYPES

* FIRE RATING AND ACOUSTICAL ATTENUATION WHEN REQUIRED BY PARTITION SYMBOL

WS — REFER TO WALL SECTION FOR CONSTRUCTION

S1FA — 1 1/2" METAL FURRING WITH (1) LAYER 5/8" GYPSUM WALL BOARD ONE SIDE — 2 1/8"

S3A — 3 5/8" METAL STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * 1 HR RATED UL419 * ACOUSTIC ATTEN. COMPONENTS STC-45 — 4 7/8"

S3B — 3 5/8" METAL STUDS WITH (2) LAYERS 5/8" TYPE X GYPSUM WALL BOARD EACH SIDE * 2 HR RATED U419 * ACOUSTIC ATTEN. COMPONENTS STC-50 — 6 1/8"

S3C — 3 5/8" METAL STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD ONE SIDE — 4 1/4"

S3L — 3 5/8" METAL STUDS WITH (2) LAYERS 5/8" GYPSUM WALL BOARD ON ONE SIDE AND (1) LAYER 5/8" GYPSUM WALL BOARD ON 1/2" RESILIENT METAL CHANNEL ON THE OTHER * ACOUSTIC ATTEN. COMPONENTS STC-57 — 6"

S4Y — 4" METAL SHAFT WALL STUDS WITH (2) LAYERS 5/8" GYPSUM WALL BOARD ONE SIDE AND 1" GYPSUM SHAFT LINER * 2 HR RATED U417 * ACOUSTIC ATTEN. COMPONENTS STC-39 — 5 1/4"

S6A — 6" METAL STUDS WITH (1) LAYER 5/8" GYPSUM WALL BOARD EACH SIDE * ACOUSTIC ATTEN. COMPONENTS STC-44 — 7 1/4"

F6N — 6" METAL STUD FRAMING, LOAD-BEARING, WITH (1) LAYER 5/8" GYPSUM BOARD EACH SIDE * ACOUSTIC ATTEN. COMPONENTS STC-32 — 7 1/4"

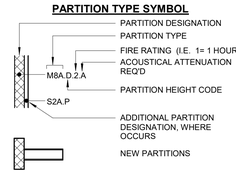
F6C — 6" COLD FORMED METAL FRAMING, LOAD-BEARING, WITH (1) LAYER 5/8" GYPSUM BOARD ONE SIDE * ACOUSTIC ATTEN. COMPONENTS STC-32 — 6 5/8"

INTERIOR PARTITION NOTES

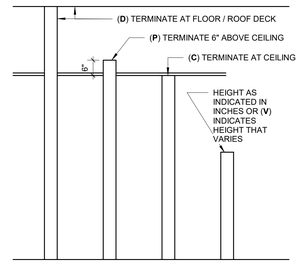
A. ALL WALLS ARE TYPE S3A.D.A UNLESS NOTED OTHERWISE.
B. PARTITION SYMBOLS TYPICALLY APPEAR ON THE LARGEST SCALE FLOOR PLANS. IF A WALL DOES NOT HAVE A PARTITION SYMBOL, PLEASE CONSULT ARCHITECT.
C. REFER TO FINISH AND CEILING PLANS FOR WALL FINISH, WALL BASE, AND CEILING INFORMATION.
D. REFER TO WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.
E. PROVIDE MOLD AND MOISTURE RESISTANT GYPSUM BOARD IN ALL ROOMS CONTAINING OPERABLE PLUMBING FIXTURES AND WITHIN 4'-0" OF DRINKING FOUNTAINS / WATER COOLERS, UNLESS NOTED OTHERWISE.
F. PROVIDE LATERAL BRACING AT 48" ON CENTER FOR NON-STRUCTURAL METAL FRAMED PARTITIONS WHICH EXTEND ABOVE THE CEILING UNLESS NOTED OTHERWISE. LATERAL BRACING NOT REQUIRED FOR PARTITIONS THAT EXTEND TO THE DECK ABOVE UNLESS NOTED OTHERWISE.
G. PROVIDE FIRE RESISTIVE RATED GYPSUM BOARD AT ALL RATED ASSEMBLIES TO MEET ASSEMBLY REQUIREMENTS.
H. PROVIDE FIRE RESISTIVE JOINT SYSTEMS EQUAL TO WALL RATING AT ALL PENETRATIONS AND AT HEAD / FLOOR INTERSECTIONS WITH RATED ASSEMBLIES.
I. PROVIDE ACOUSTICAL SEALANT AT WALL SILL, HEAD, PENETRATIONS AND ADDITIONAL SPECIFIED SOUND ATTENUATION COMPONENTS AT SOUND RATED WALLS.
J. PROVIDE SPECIFIED TILE BACKER BOARD AT ALL WALLS INDICATED TO HAVE CERAMIC TILE, REFER TO FINISH PLANS.
K. ISOLATE NON-LOAD-BEARING STUD FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF VERTICAL LOADS WHILE PROVIDING LATERAL SUPPORT AS SPECIFIED.
L. METAL STUD SPACING SHALL BE 16" ON CENTER MAXIMUM UNLESS OTHERWISE REQUIRED BY DELEGATED DESIGN OR NOTED OTHERWISE.

INTERIOR PARTITION LEGEND

PARTITION TYPE SYMBOL



INTERIOR PARTITION HEIGHT CODES

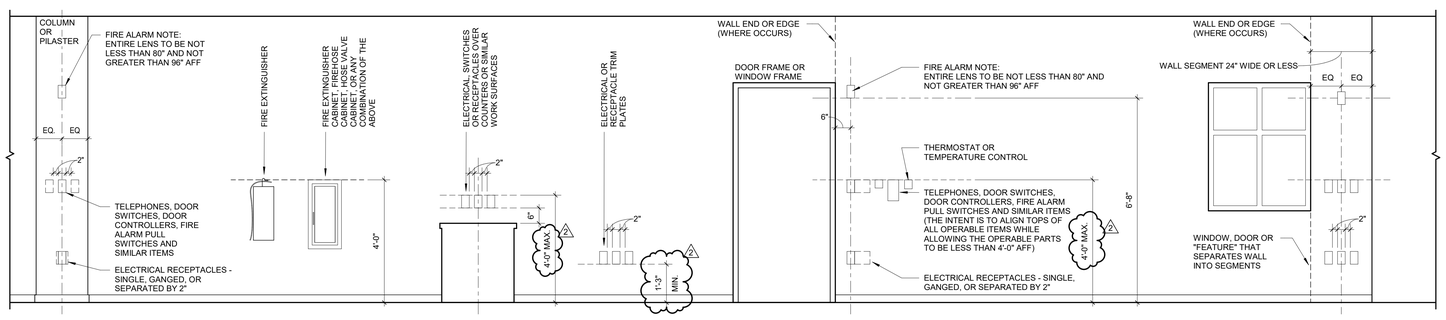


SPECIALITY EQUIPMENT SCHEDULE					
Type Mark	Mark	Description	Manufacturer	Model	Count
E101	OFOI	LAMINATOR; CTOP		N/A	1
E102	OFOI	PAPER CUTTER, MANUAL		N/A	1
E103	OFOI	CARD CUTTER		N/A	1
E104	OFOI	DESK COPY/PRINTER		N/A	1
E110	CFCI	MICROWAVE 13-5/8"H x 24-1/8"W x 19-1/4"D (WHITE)	GE	JES2051DNWW	2
E111	CFCI	TOP FREEZER REFRIGERATOR (65-7/8"H x 29-3/4"W x 33-1/2"D)	WHIRLPOOL	WRT318FMDW	1
E112	OFOI	K-SELECT COFFEE BREWER (12.5"H x 9.2"W x 11.6"D)	KEURIG	K-SELECT	1

STANDARD-DEVICE MOUNTING GUIDELINES

NOTES:

1. USE THIS DETAIL TO LOCATE DEVICES THAT ARE INDICATED ON THE DRAWINGS BUT NOT LOCATED BY DIMENSION, OR TO LOCATE REQUIRED DEVICES THAT ARE NOT INDICATED ON THE DRAWINGS.
2. ALIGN MULTIPLE DEVICES HORIZONTALLY AND/OR VERTICALLY AS DETAILED.
3. ITEMS OTHER THAN ELECTRICAL RECEPTACLES SHALL BE MOUNTED NEAR DOORWAYS OR INTERSECTING WALLS AS DETAILED SO AS NOT TO INTERFERE WITH THE PLACEMENT OF ART OR FUNITURE - EXCEPT THAT WHERE THE WALL SEGMENT IS LESS THAN 24" WIDE, CENTER THE DEVICES AS DETAILED.



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SEAL | DATE

SHEET ISSUE

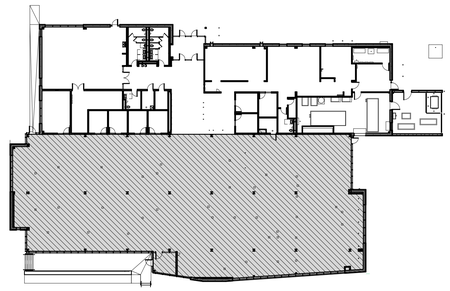
1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

RATIO

PROJECT NO. 18005.000

SHEET TITLE
INT. PARTITION TYPES, STAND. PARTITION DETAILS, FINISH SCHEDULE

SHEET NUMBER
A-002



KEYNOTES (ACTION/GENERAL)

00-A1

00-F4	OWNER FURNISHED; OWNER INSTALLED
11-A1	PROVIDE BLOCKING AS REQUIRED
11-A2	PROVIDE BLOCKING AS REQUIRED FOR FUTURE EQUIPMENT
11-B1	OWNER PROVIDED EQUIPMENT - MONITOR (PROVIDE BLOCKING AS REQUIRED)

KEYNOTES (SPEC BASED)

061600.A00

042000.A01	FACE BRICK
042000.D01	CUT STONE TRIM IN MASONRY VENEER SYSTEM
044200.A02	EXTERIOR STONE CLADDING SYSTEM, LIMESTONE
055000.C04	ROOF LADDER
055000.D01	METAL BOLLARD
076200.C03	CONDUCTOR HEAD
083113.B06	ACCESS DOORS AND FRAMES - RECESSED ACCESS DOOR WITH CONCEALED FLANGE
084113.B03	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS - EXTERIOR, 6" FRAME DEPTH
084413.A00	GLAZED ALUMINUM CURTAIN WALLS
089119.A00	FIXED LOUVERS
103100.A02	MANUFACTURED FIREPLACE, ELECTRIC FIREPLACE INSERT
104413.A00	FIRE PROTECTION CABINET
104416.A00	FIRE EXTINGUISHER
115116.A00	MATERIAL RETURN DEPOSITORY
220000.A00	PLUMBING EQUIPMENT/FIXTURE REFERENCE PLUMBING DRAWINGS
230000.A00	HVAC UNIT, REFERENCE MECHANICAL DRAWINGS

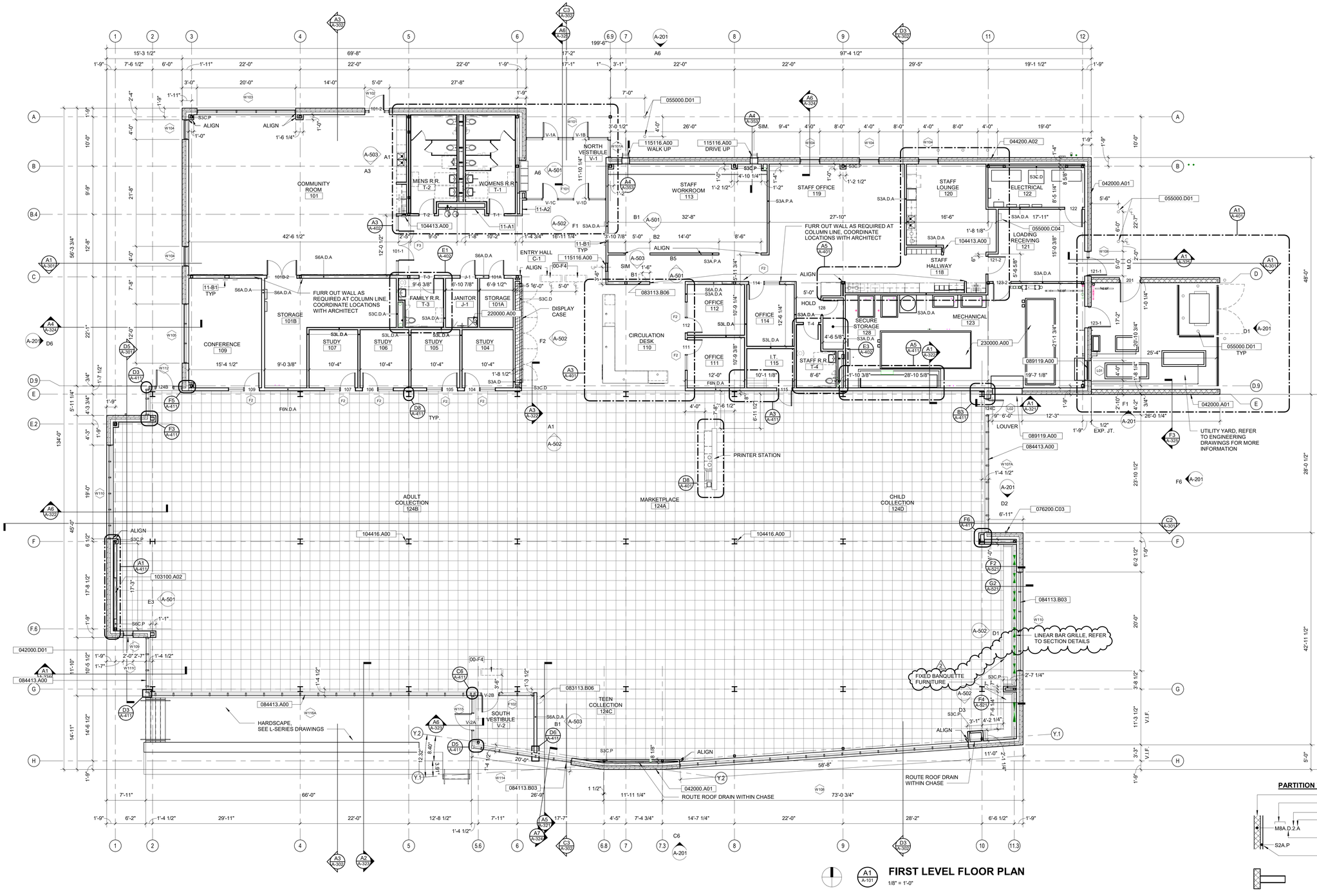
INTERIOR PARTITION NOTES

A. ALL WALLS ARE TYPE S3A.D.A UNLESS NOTED OTHERWISE.
B. PARTITION SYMBOLS TYPICALLY APPEAR ON THE LARGEST SCALE FLOOR PLANS. IF A WALL DOES NOT HAVE A PARTITION SYMBOL, PLEASE CONSULT ARCHITECT.
C. REFER TO FINISH AND CEILING PLANS FOR WALL FINISH, WALL BASE, AND CEILING INFORMATION.
D. REFER TO WALL SECTIONS FOR EXTERIOR WALL CONSTRUCTION.
E. PROVIDE MOLD AND MOISTURE RESISTANT GYPSUM BOARD IN ALL ROOMS CONTAINING OPERABLE PLUMBING FIXTURES AND WITHIN 4'-0" OF DRINKING FOUNTAINS / WATER COOLERS, UNLESS NOTED OTHERWISE.
F. PROVIDE LATERAL BRACING AT 48" ON CENTER FOR NON-STRUCTURAL METAL FRAMED PARTITIONS WHICH EXTEND ABOVE THE CEILING UNLESS NOTED OTHERWISE. LATERAL BRACING NOT REQUIRED FOR PARTITIONS THAT EXTEND TO THE DECK ABOVE UNLESS NOTED OTHERWISE.
G. PROVIDE FIRE RESISTIVE RATED GYPSUM BOARD AT ALL RATED ASSEMBLIES TO MEET ASSEMBLY REQUIREMENTS.
H. PROVIDE FIRE RESISTIVE JOINT SYSTEMS EQUAL TO WALL RATING AT ALL PENETRATIONS AND AT HEAD / FLOOR INTERSECTIONS WITH RATED ASSEMBLIES.
I. PROVIDE ACOUSTICAL SEALANT AT WALL SILL, HEAD, PENETRATIONS AND ADDITIONAL SPECIFIED SOUND ATTENUATION COMPONENTS AT SOUND RATED WALLS.
J. PROVIDE SPECIFIED TILE BACKER BOARD AT ALL WALLS INDICATED TO HAVE CERAMIC TILE, REFER TO FINISH PLANS.
K. ISOLATE NON-LOAD-BEARING STUD FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF VERTICAL LOADS WHILE PROVIDING LATERAL SUPPORT AS SPECIFIED.
L. METAL STUD SPACING SHALL BE 16" ON CENTER MAXIMUM UNLESS OTHERWISE REQUIRED BY DELEGATED DESIGN OR NOTED OTHERWISE.

F4 A-101

FIRST LEVEL RAISED FLOORING SYSTEM EXTENT

1/32" = 1'-0"



A1 A-101

FIRST LEVEL FLOOR PLAN

1/8" = 1'-0"

PARTITION TYPE SYMBOL

- PARTITION DESIGNATION
- PARTITION TYPE
- FIRE RATING (I.E. 1= 1 HOUR)
- ACOUSTICAL ATTENUATION REQ'D
- PARTITION HEIGHT CODE
- ADDITIONAL PARTITION DESIGNATION, WHERE OCCURS
- NEW PARTITIONS

M8A.D.2.A
S2A.P

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SHEET TITLE
FIRST FLOOR PLAN

SHEET NUMBER
A-101

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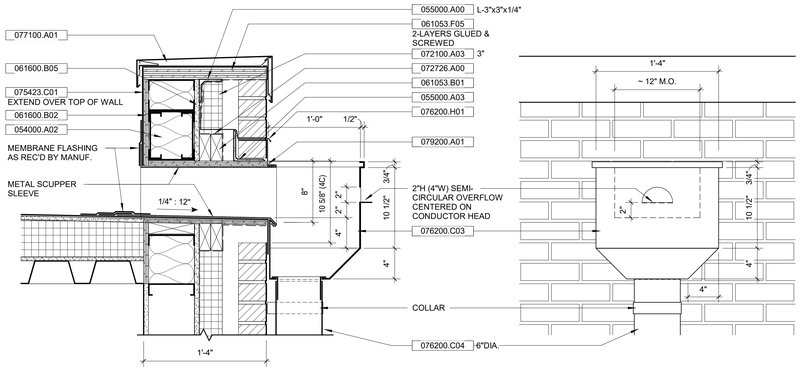
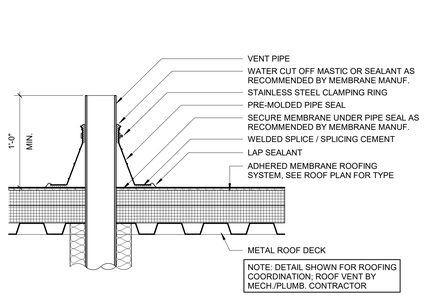
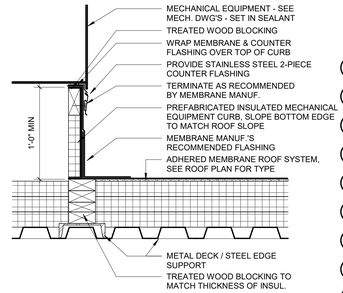


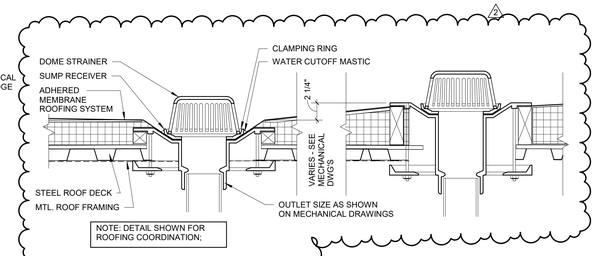
F1 A-102 **CONDUCTOR HEAD / SCUPPER DETAIL**
1 1/2" = 1'-0"



F4 A-102 **VENT PIPE FLASHING**
1 1/2" = 1'-0"



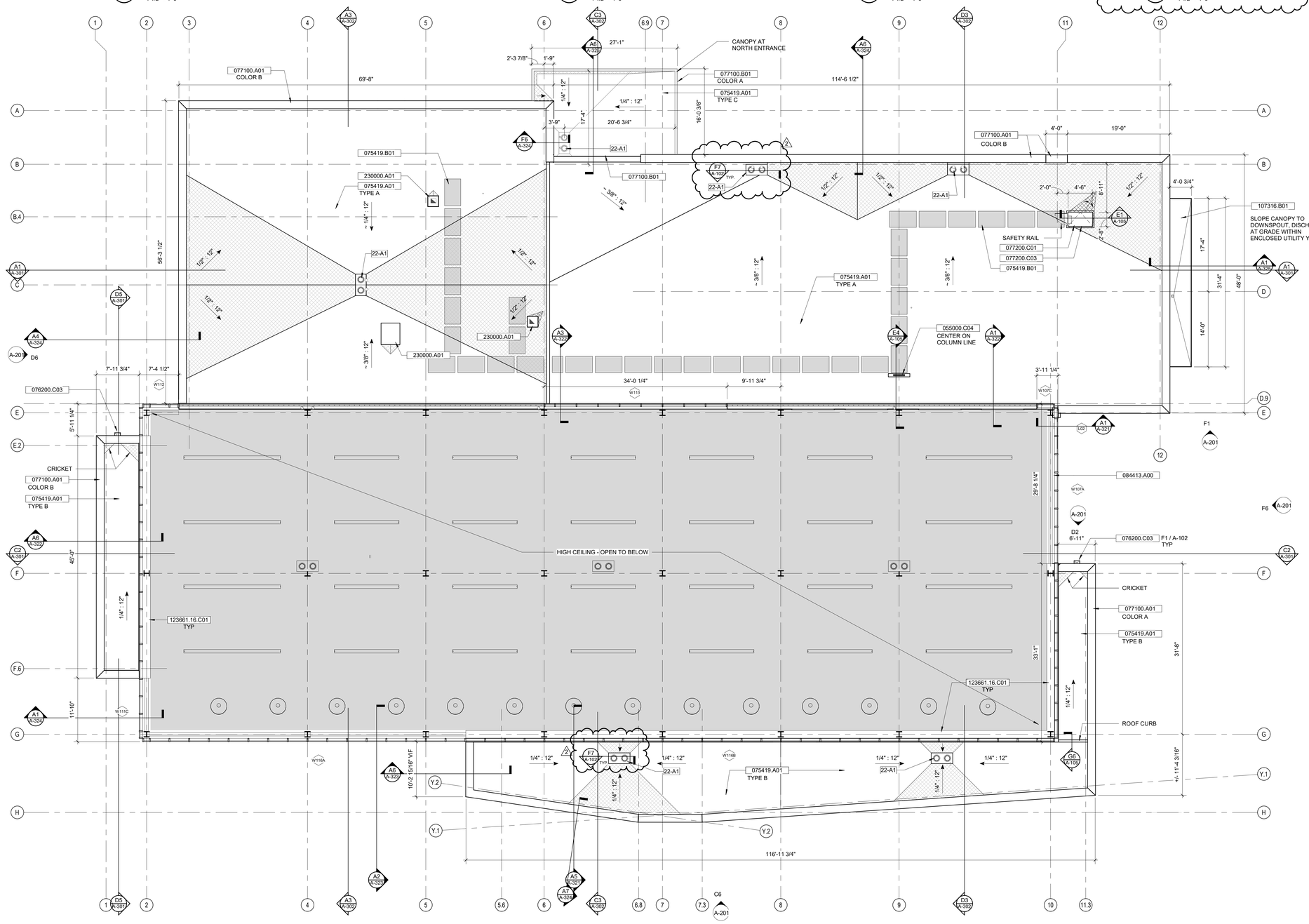
F5 A-102 **MECH CURB DETAIL**
1 1/2" = 1'-0"



F7 A-102 **ROOF DRAIN DETAIL**
1 1/2" = 1'-0"

GENERAL ROOFING NOTES

A. THESE GENERAL NOTES APPLY TO ROOF DRAWINGS.
B. VERIFY SIZE, LOCATION AND NUMBER OF ROOF PENETRATIONS INCLUDING VENTS, PIPES, CURBS, ROOF DRAINS, CONDUITS, ETC. PROVIDE NEW FLASHING AND SEAL PENETRATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS.
C. REPAIR AND REPLACE ROOFING SYSTEM OR STRUCTURE DAMAGED BY IMPROPER STORAGE, CONSTRUCTION ACTIVITIES, OR LACK OF ADEQUATE TEMPORARY PROTECTION. THIS ALSO INCLUDES INTERIOR DAMAGE TO FINISHES, EQUIPMENT, FURNISHINGS, ETC., RESULTING FROM LEAKS.
D. NEW BLOCKING SHALL BE PRESERVATIVE-TREATED WOOD.
E. PAINT W/ HIGH-PERFORMANCE COATING, EXTERIOR LADDERS, BRACKETS, ETC., UNLESS NOTED OTHERWISE.
F. CAP FASTENERS THAT PENETRATE ROOF DECK IN AREAS NOT CONCEALED BY CEILINGS WITH WIRE NUTS OR OTHER MEANS ACCEPTABLE TO ARCHITECT UNLESS OTHERWISE INDICATED. AREAS SUCH AS JANITOR CLOSETS, STORAGE ROOMS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, ETC., ARE EXEMPT FROM THIS REQUIREMENT UNLESS OTHERWISE INDICATED.
G. REFER TO WALL SECTIONS NOTED ON ROOF PLANS FOR INFORMATION.
H. REFER TO MECHANICAL DRAWINGS TO COORDINATE ROOF CONDUCTOR LOCATIONS.



KEYNOTES (ACTION/GENERAL)

00-A1

22-A1	ROOF DRAIN

KEYNOTES (SPEC BASED)

061600.A00

054000.A02	COLD-FORMED METAL FRAMING - 6"
055000.A00	METAL FABRICATIONS
055000.A03	METAL FABRICATIONS, STEEL LINTEL
055000.C04	ROOF LADDER
061053.B01	WOOD BLOCKING
061053.F05	MISCELLANEOUS ROUGH CARPENTRY, PLYWOOD, 3/4"
061600.B02	WALL SHEATHING, PLYWOOD, 5/8"
061600.B05	WALL SHEATHING, GLASS-MAT GYPSUM, 5/8"
072100.A03	POLYISOCYANURATE FOAM-PLASTIC BOARD (RIGID)
072726.A00	FLUID APPLIED MEMBRANE AIR BARRIER
075419.A01	PVC ROOFING SYSTEM
075419.B01	PVC ROOFING, WALKWAY SURFACE
075423.C01	TPO ROOFING, FLASHING
076200.C03	CONDUCTOR HEAD
076200.C04	DOWNSPOUT
076200.H01	THROUGH-WALL FLASHING
077100.A01	COPING, METAL, MANUFACTURED
077100.B01	GRAVEL STOP, MANUFACTURED
077200.C01	ROOF HATCH
077200.C03	SAFETY RAILS
079200.A01	SEALANT
084413.A00	GLAZED ALUMINUM CURTAIN WALLS
107316.B01	CANOPY-METAL
123661.16.C01	WINDOW STOOL, SOLID SURFACING
230000.A01	MECHANICAL SYSTEM DEVICE, REFERENCE MECHANICAL DRAWINGS

A1 A-102 **CLERESTORY PLAN - LOWER ROOF PLAN**
1/8" = 1'-0"

10/28/2021 11:21:40 PM

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SHEET ISSUE

1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

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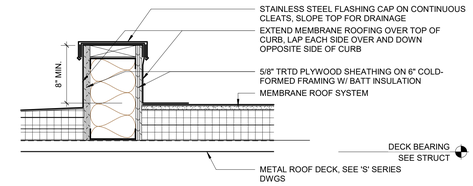
PROJECT NO. 18005.000

SHEET TITLE
CLERESTORY PLAN - LOWER ROOF PLAN

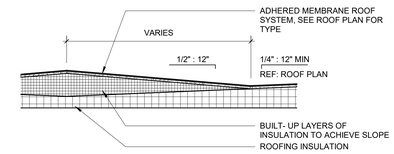
SHEET NUMBER
A-102

E1 A-105 **ROOF HATCH DETAIL**
1 1/2" = 1'-0"

E4 A-105 **ROOF LADDER DETAIL**
3/4" = 1'-0"



G6 A-105 **ROOF TRANSITION DETAIL**
1 1/2" = 1'-0"



F6 A-105 **ROOF SADDLE/CRICKET DETAIL**
1 1/2" = 1'-0"

GENERAL ROOFING NOTES

A. THESE GENERAL NOTES APPLY TO ROOF DRAWINGS.
B. VERIFY SIZE, LOCATION AND NUMBER OF ROOF PENETRATIONS INCLUDING VENTS, PIPES, CURBS, ROOF DRAINS, CONDUITS, ETC. PROVIDE NEW FLASHING AND SEAL PENETRATIONS WHETHER OR NOT INDICATED ON THE DRAWINGS.
C. REPAIR AND REPLACE ROOFING SYSTEM OR STRUCTURE DAMAGED BY IMPROPER STORAGE, CONSTRUCTION ACTIVITIES, OR LACK OF ADEQUATE TEMPORARY PROTECTION. THIS ALSO INCLUDES INTERIOR DAMAGE TO FINISHES, EQUIPMENT, FURNISHINGS, ETC., RESULTING FROM LEAKS.
D. NEW BLOCKING SHALL BE PRESERVATIVE-TREATED WOOD.
E. PAINT W/ HIGH-PERFORMANCE COATING, EXTERIOR LADDERS, BRACKETS, ETC., UNLESS NOTED OTHERWISE.
F. CAP FASTENERS THAT PENETRATE ROOF DECK IN AREAS NOT CONCEALED BY CEILINGS WITH WIRE NUTS OR OTHER MEANS ACCEPTABLE TO ARCHITECT UNLESS OTHERWISE INDICATED. AREAS SUCH AS JANITOR CLOSETS, STORAGE ROOMS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, ETC., ARE EXEMPT FROM THIS REQUIREMENT UNLESS OTHERWISE INDICATED.
G. REFER TO WALL SECTIONS NOTED ON ROOF PLANS FOR INFORMATION.
H. REFER TO MECHANICAL DRAWINGS TO COORDINATE ROOF CONDUCTOR LOCATIONS.

KEYNOTES (ACTION/GENERAL)

00-A1

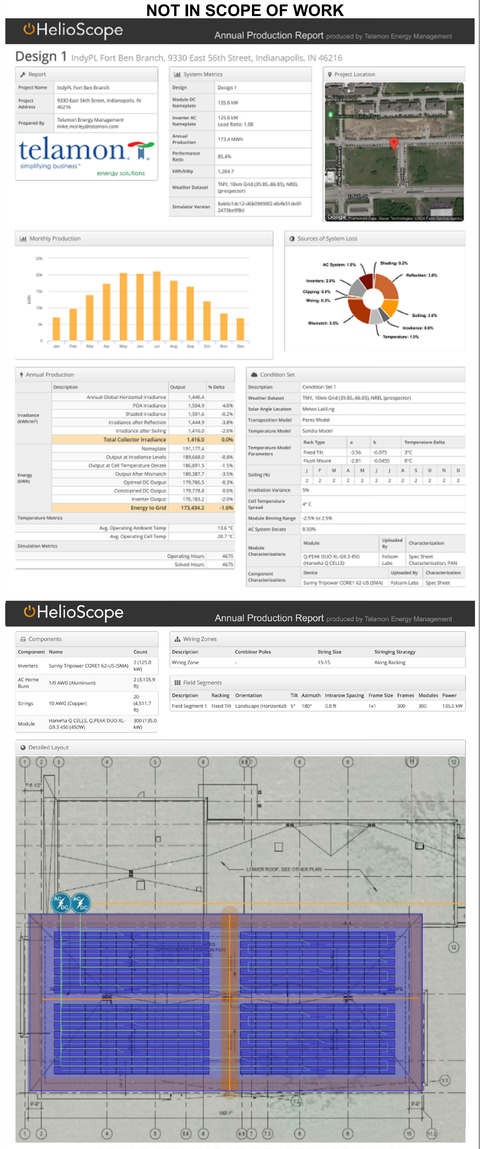
22-A1	ROOF DRAIN

KEYNOTES (SPEC BASED)

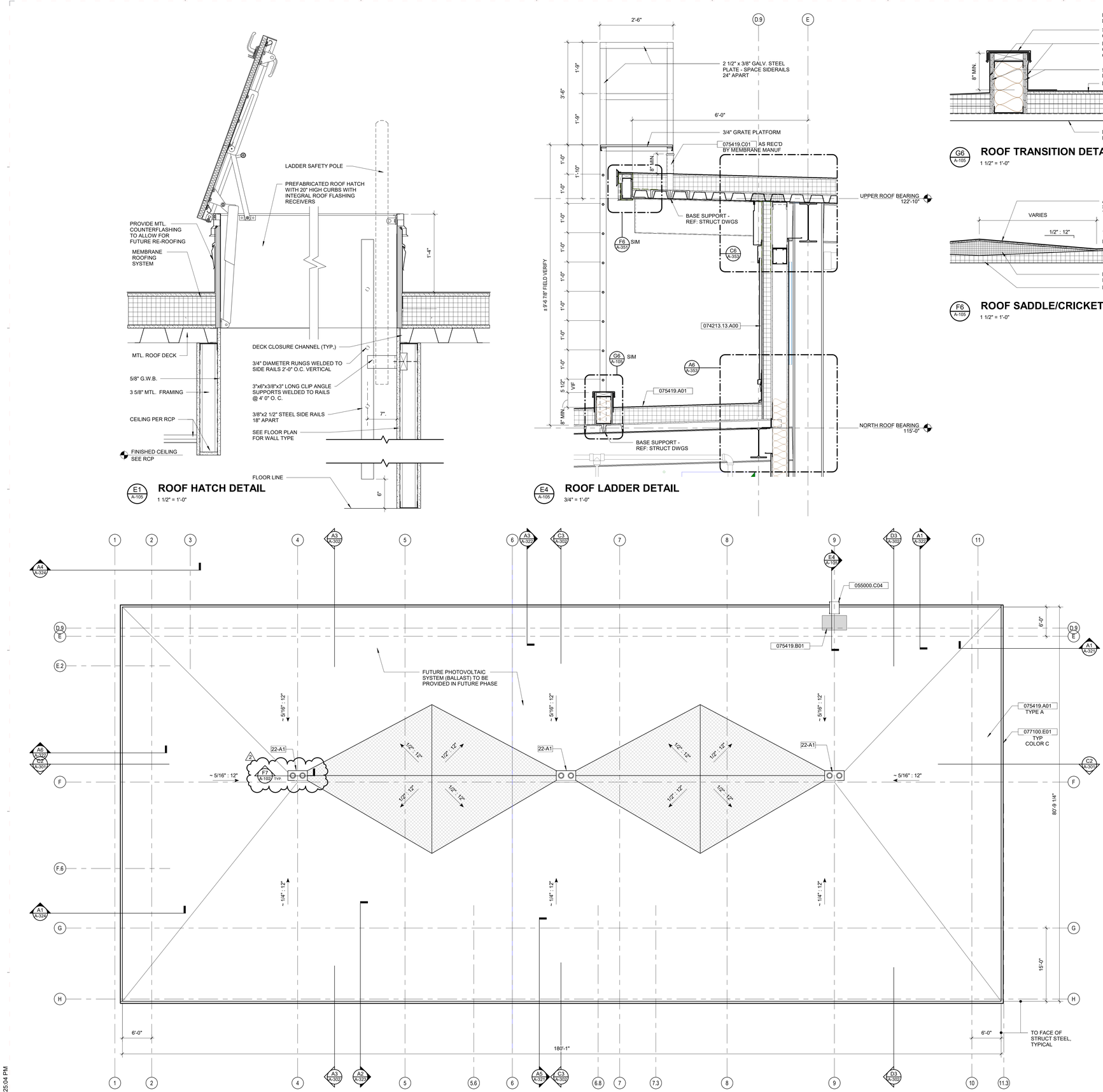
061600.A00

055000.C04	ROOF LADDER
074213.13.A00	FORMED METAL WALL PANELS
075419.A01	PVC ROOFING SYSTEM
075419.B01	PVC ROOFING, WALKWAY SURFACE
075419.C01	PVC ROOFING, FLASHING
077100.E01	ROOF-EDGE FASCIA, MANUFACTURED

SOLAR STUDY FOR REFERENCE ONLY NOT IN SCOPE OF WORK



SOLAR STUDY FOR REFERENCE ONLY NOT IN SCOPE OF WORK



A6 A-105 **ROOF PLAN - UPPER LEVEL**
1/8" = 1'-0"

10/28/2021 11:25:04 PM

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PROJECT NO. 18005.000

SHEET TITLE
UPPER ROOF PLAN

SHEET NUMBER
A-105

GENERAL CEILING PLAN NOTES

A. THESE GENERAL NOTES APPLY TO SERIES A-130 REFLECTED CEILING DRAWINGS.
B. INSTALL NEW CEILINGS AT +10'-0"A.F.F. UNLESS NOTED OTHERWISE. ALL CEILINGS TO BE ACT-01 UNLESS NOTED OTHERWISE.
C. CENTER CEILING GRIDS WITHIN ROOMS EACH DIRECTION UNLESS NOTED OTHERWISE.
D. LOCATE CEILING GRIDS WITHIN ROOMS SUCH THAT BORDERS CONTAIN NOT LESS THAN 1/2 TILE WIDTH, UNLESS OTHERWISE INDICATED.
E. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC., UNLESS OTHERWISE INDICATED.
F. PAINT EXPOSED GYPSUM BOARD AND PLASTER CEILING SURFACES PT-01 UNLESS OTHERWISE INDICATED.
G. PROVIDE CONTROL JOINTS (C.J.) IN GYPSUM BOARD CEILING CONSTRUCTION AS INDICATED. WHERE NOT SHOWN, PROVIDE MAXIMUM SPACING BETWEEN JOINTS OF 30'-0". VERIFY FINAL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK WHETHER OR NOT INDICATED ON THE DRAWINGS.
H. CEILING ACCESS PANELS INDICATED ARE NOT INTENDED TO LIMIT NUMBER OF PANELS REQUIRED. PANEL QUANTITY SHALL BE SUFFICIENT TO PROVIDE REQUIRED ACCESS WHETHER OR NOT INDICATED ON THE DRAWINGS. VERIFY FINAL LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
I. REFER TO SERIES A-001 GENERAL INFORMATION DRAWINGS FOR MATERIAL SYMBOL KEY.
J. REFER TO SERIES A-150 FINISH PLANS FOR ADDITIONAL CEILING FINISH INFORMATION.
K. REFER TO ELECTRICAL DRAWINGS FOR CEILING-MOUNTED LIGHT FIXTURE TYPES AND QUANTITIES.
L. REFER TO MECHANICAL DRAWINGS FOR CEILING-MOUNTED DIFFUSERS, GRILLE TYPES AND QUANTITIES.
M. REFER TO TECHNOLOGY DRAWINGS FOR CEILING MOUNTED EQUIPMENT, DEVICES AND QUANTITIES.
N. COORDINATE FINAL SPRINKLER HEAD TYPES AND QUANTITIES WITH ARCHITECT DURING SUBMITTAL REVIEW. HEADS HAVE BEEN INTENTIONALLY OMITTED FROM REFLECTED CEILING PLANS FOR CLARITY.
O. INSTALLATION OF CEILING SYSTEMS SHALL NOT BEGIN PRIOR TO SUBMITTAL AND REVIEW OF CEILING COORDINATION DRAWINGS SHOWING LAYOUT OF CEILING GRIDS OR CONTROL JOINTS AND ITEMS TO BE INSTALLED IN OR ON CEILINGS SUCH AS SPRINKLER HEADS, DIFFUSERS, GRILLES, LIGHT FIXTURES, FIRE DETECTION AND ALARM DEVICES, ACCESS PANELS, ETC.
P. PROVIDE 4" AXIOM EDGE TRIM ON ALL EXPOSED EDGES OF CEILINGS UNLESS NOTED OTHERWISE.
Q. IN AREAS WHERE STRUCTURE IS EXPOSED, CONTRACTOR TO PROVIDE FINAL LAYOUTS OF ALL DUCTWORK, PIPING, CONDUIT, LIGHTING, ETC. FOR FINAL APPROVAL BY ARCHITECT PRIOR TO INSTALLATION.
R. PAINT ALL ELEMENTS ABOVE CLOUD CEILINGS WITHIN 6'-0" OF PERIMETER INCLUDING BUT NOT LIMITED TO DUCTWORK, STRUCTURE, CABLES, METAL STUDS, PIPING, CEILING HANGERS, AND MECHANICAL DEVICES

RCP LEGEND

- CEILING TAG — XXX-01 / 10'-10" A.F.F. — *CEILING TYPE* / *CEILING HEIGHT (ABOVE FINISH FLOOR)*
- SPOT ELEVATION MARKER
- GYB BOARD CEILING (REFER TO PLAN FOR SUSPENSION TYPE)
- ACOUSTIC CEILING TILE
- 1 x 4 LIGHT FIXTURE
- 2 x 2 LIGHT FIXTURE
- LINEAR LIGHT FIXTURE
- DOWNLIGHT
- SPECIALTY PENDANT
- MECHANICAL RETURN REGISTER
- MECHANICAL AIR SUPPLY DIFFUSER
- SPRINKLER HEAD (LOCATION INTENT ONLY)
- SPEAKERS
- ACCESS DOOR

* IF SYMBOL DOES NOT APPEAR IN LEGEND, REFER TO OTHER MECHANICAL, ELECTRICAL PLUMBING AND TECHNOLOGY DRAWINGS / LEGENDS FOR MORE INFORMATION. ALL CEILING DEVICES AND EQUIPMENT MAY NOT BE SHOWN. IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWING SHEETS AND SPECIFICATIONS TO ENSURE FULL SCOPE OF WORK IS UNDERSTOOD.

KEYNOTES (SPEC BASED)

061600.A00

051200.A00	STRUCTURAL STEEL FRAMING
074293.B01	METAL SOFFIT PANEL
077100.E01	ROOF-EDGE FASCIA, MANUFACTURED
083113.B04	ACCESS DOORS AND FRAMES - FLUSH ACCESS DOOR WITH CONCEALED FLANGE
092900.B04	GYPSUM BOARD, 5/8"
107316.B01	CANOPY-METAL
230000.A00	HVAC UNIT. REFERENCE MECHANICAL DRAWINGS

KEYNOTES (ACTION/GENERAL)

00-A1

11-A1	PROVIDE BLOCKING AS REQUIRED

FIRST LEVEL RCP (A6 / A-131)
1/8" = 1'-0"

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SHEET ISSUE

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PROJECT NO. 18005.000

SHEET TITLE
FIRST FLOOR REFLECTED CEILING PLAN

SHEET NUMBER
A-131

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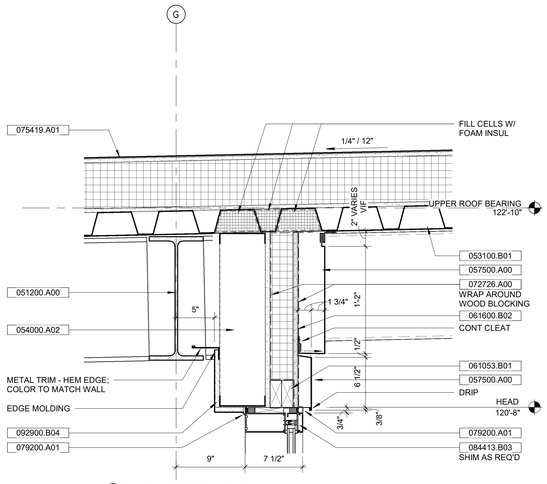
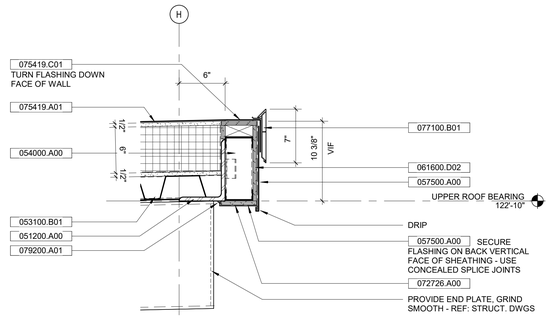


F4 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"



F6 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"

KEYNOTES (ACTION/GENERAL)

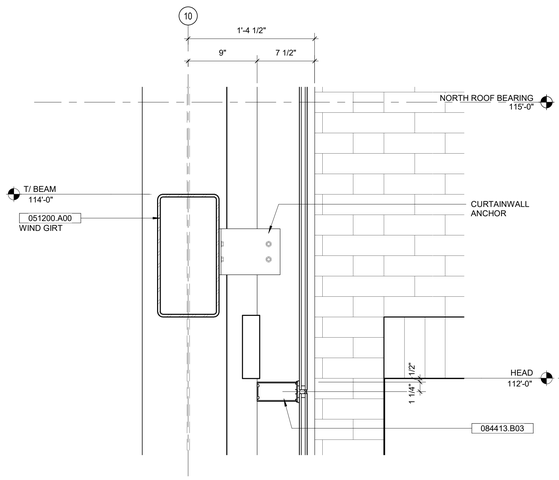
00-A1

04-A2	GROUT SOLID BELOW FLASHING
09-A4	CEILING, REFER TO REFLECTED CEILING PLAN FOR TYPE

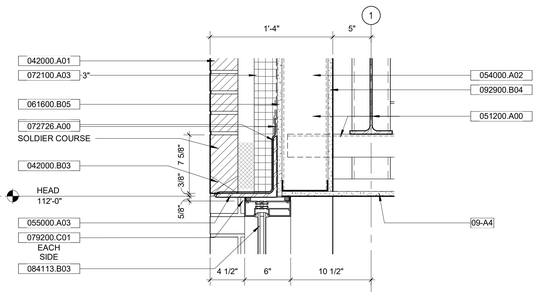
KEYNOTES (SPEC BASED)

061600.A00

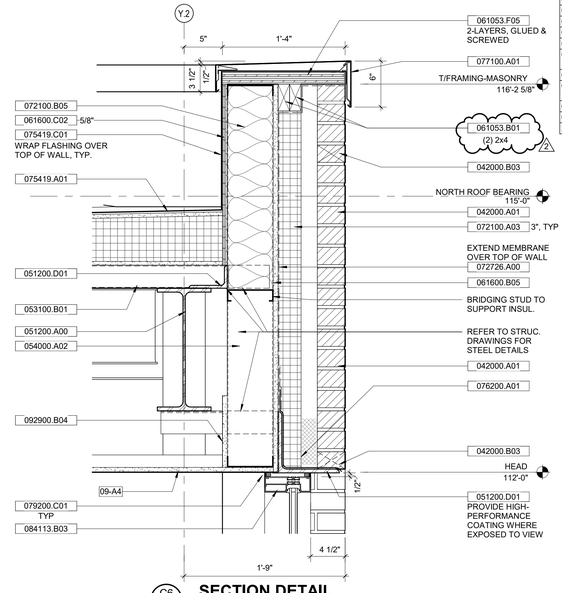
033000.A02	CAST-IN-PLACE CONCRETE SLAB
042000.A01	FACE BRICK
042000.B03	MASONRY VENEER, WEEP/VENT
044200.A02	EXTERIOR STONE CLADDING SYSTEM, LIMESTONE
051200.A00	STRUCTURAL STEEL FRAMING
051200.D01	STRUCTURAL STEEL FRAMING, ANGLE
053100.B01	ROOF DECK
054000.A00	COLD-FORMED METAL FRAMING
054000.A02	COLD-FORMED METAL FRAMING - 6"
055000.A03	METAL FABRICATIONS, STEEL LINTEL
057500.A00	DECORATIVE FORMED METAL
061053.B01	WOOD BLOCKING
061053.F05	MISCELLANEOUS ROUGH CARPENTRY, PLYWOOD, 3/4"
061600.B02	WALL SHEATHING, PLYWOOD, 5/8"
061600.B05	WALL SHEATHING, GLASS-MAT GYPSUM, 5/8"
061600.C02	ROOF SHEATHING, PLYWOOD, 1/2"
061600.D02	PARAPET SHEATHING, PLYWOOD, 1/2"
071113.A00	BITUMINOUS DAMPPROOFING
072100.A03	POLYISOCYANURATE FOAM-PLASTIC BOARD (RIGID)
072100.B05	GLASS-FIBER BLANKET, R-19 (BATT)
072726.A00	FLUID APPLIED MEMBRANE AIR BARRIER
075419.A01	PVC ROOFING SYSTEM
075419.C01	PVC ROOFING, FLASHING
076200.A01	SHEET METAL FLASHING AND TRIM
076200.H01	THROUGH-WALL FLASHING
077100.A01	COPING, METAL, MANUFACTURED
077100.B01	GRAVEL STOP, MANUFACTURED
079200.A01	SEALANT
079200.C01	BACKER ROD AND SEALANT
084113.B03	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS - EXTERIOR, 6" FRAME DEPTH
084413.A00	GLAZED ALUMINUM CURTAIN WALLS
084413.B03	GLAZED ALUMINUM CURTAIN WALLS - 7 1/2" FRAME DEPTH
092900.B04	GYPSUM BOARD, 5/8"
096900.A00	ACCESS FLOORING SYSTEM
230000.B01	DIFFUSER, REFERENCE MECHANICAL DRAWINGS



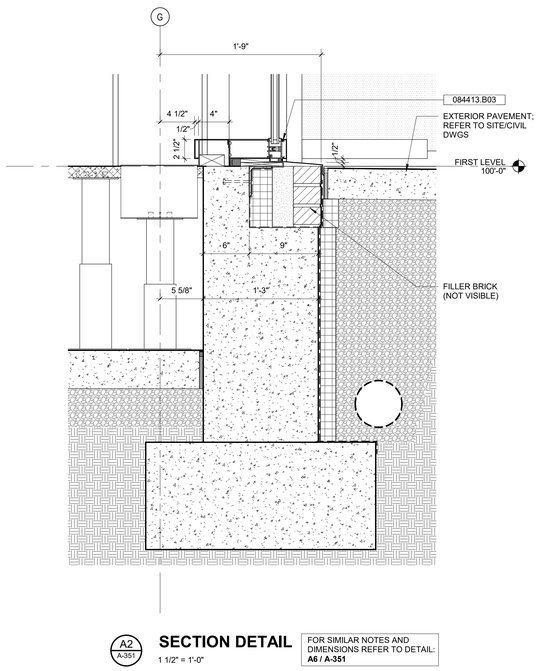
C1 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"



C4 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"

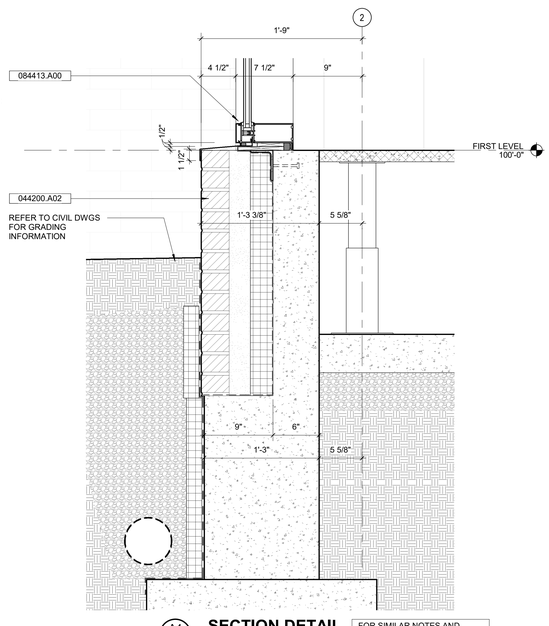


C6 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"



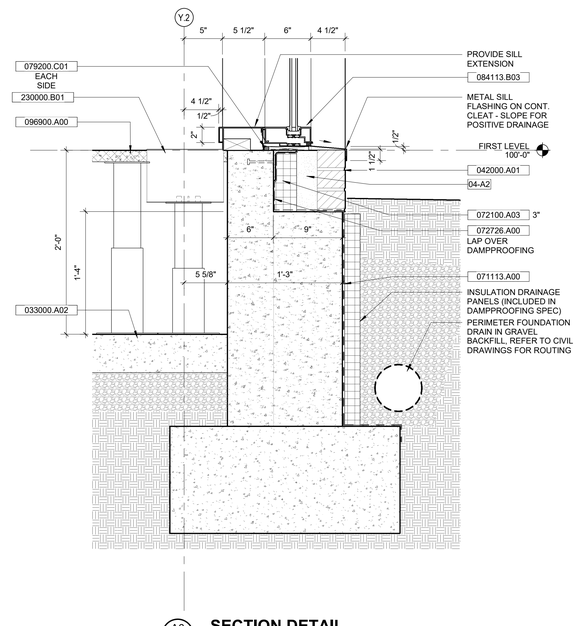
A2 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"

FOR SIMILAR NOTES AND DIMENSIONS REFER TO DETAIL: **A6 / A-351**



A4 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"

FOR SIMILAR NOTES AND DIMENSIONS REFER TO DETAIL: **A6 / A-351**



A6 A-351 **SECTION DETAIL**
1 1/2" = 1'-0"

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The INDIANAPOLIS PUBLIC Library

SEAL | DATE

SHEET ISSUE

1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

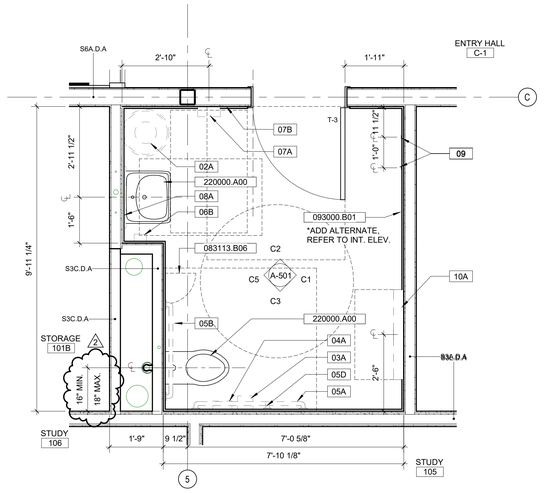
RATIO

PROJECT NO. 18005.000

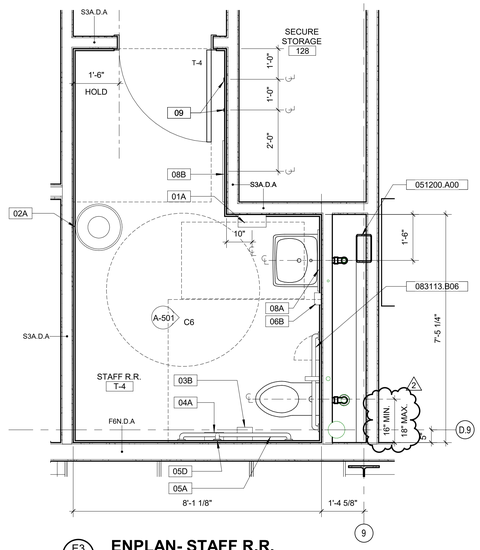
SHEET TITLE
EXTERIOR DETAILS

SHEET NUMBER
A-351

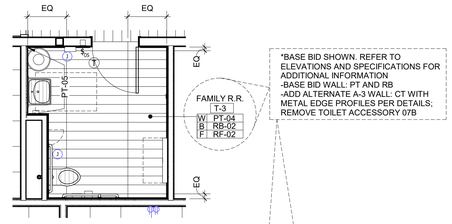
10/28/2021 10:34:59 PM



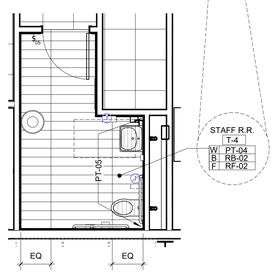
E1 A-402 **ENPLAN - PRIVATE R.R.**
1/2" = 1'-0"



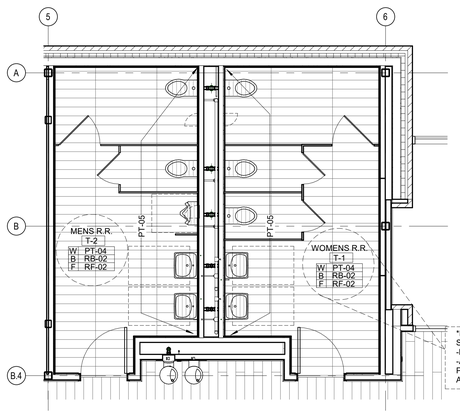
E3 A-402 **ENPLAN- STAFF R.R.**
1/2" = 1'-0"



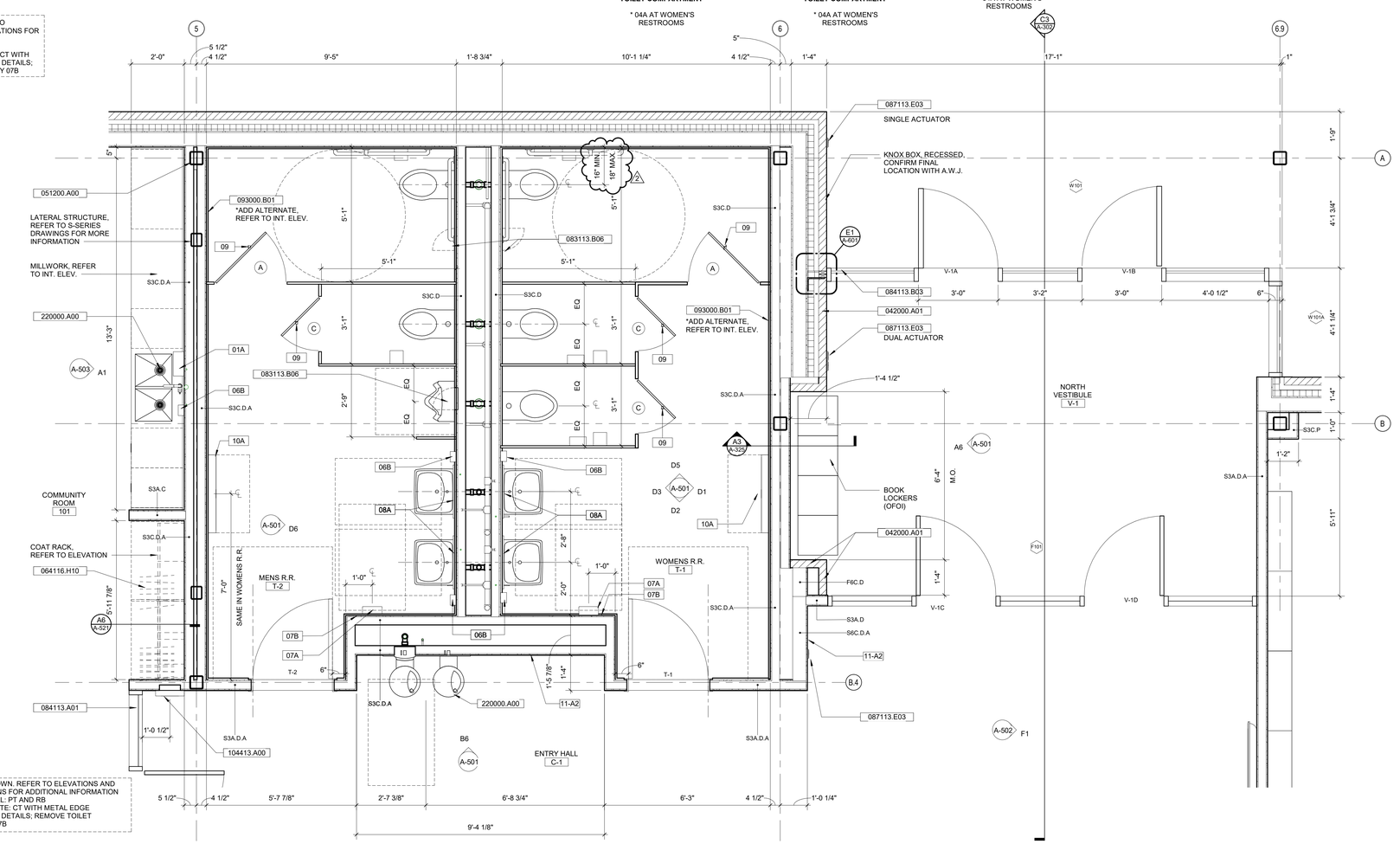
D1 A-402 **ENFINPL - PRIVATE R.R.**
1/4" = 1'-0"



C1 A-402 **ENFINPL- STAFF R.R.**
1/4" = 1'-0"



A1 A-402 **ENLARGED FINISH PLAN - PUBLIC RESTROOMS**
1/4" = 1'-0"



A3 A-402 **ENLARGED FLOOR PLAN - PUBLIC RESTROOMS**
1/2" = 1'-0"

TOILET ROOM ACCESSORIES

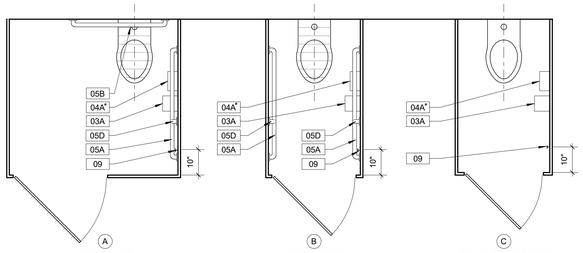
05A

REFER TO SHEET A-002 FOR TOILET COMPARTMENT TYPES AND ACCESSORIES

TAG	DESCRIPTION	MFR	MODEL NO.
01A	PAPER TOWEL DISPENSER, KNOB LATCH SURFACE MOUNTED	BOBRICK	B-2620
02A	WASTE RECEPTACLE, FREE STANDING	BOBRICK	B-2400
03A	TOILET TISSUE HOLDER, KEYED SURFACE MOUNT, DOUBLE ROLL	BOBRICK	B-2888
03B	TOILET TISSUE HOLDER, KNOB LATCH SURFACE MOUNT, DOUBLE ROLL	BOBRICK	B-2888
04A	SANITARY NAPKIN DISPOSAL, SURFACE MOUNTED	BOBRICK	B-254
05A	GRAB BAR, 42"	BOBRICK	B-5806 x 42
05B	GRAB BAR, 36"	BOBRICK	B-5806 x 36
05D	GRAB BAR, 18"	BOBRICK	B-5806 x 18
05E	GRAB BAR, 12"	BOBRICK	B-5806 x 12
05F	GRAB BAR, 30"	BOBRICK	B-5806 x 30
06B	SOAP DISPENSER (GOJO UNIT), WALL MOUNTED	OF/OI	
07A	THIN AIR HAND DRYER, BRUSHED STAINLESS	EXCEL DRYER	TA-SB
07B	WALL GUARD, BRUSHED STAINLESS STEEL	EXCEL DRYER	89S
08A	MIRROR, ABOVE COUNTERTOP	BOBRICK	B-290 2436
08B	MIRROR, ABOVE COUNTERTOP	BOBRICK	B-290 2472
09	CLOTHES HOOK	BOBRICK	B-233
10A	DIAPER CHANGING STATION, SURFACE MOUNTED	KOALA KARE	KB110-SSWM
12B	JANITOR'S CLOSET SHELF, 24" W	BOBRICK	B-295x24
12C	MOP AND BROOM HOLDER	BOBRICK	B-223x24

STANDARD TOILET COMPARTMENT TYPES - TYPICAL ACCESSORIES

REFERENCE STANDARD PLUMBING FIXTURE REQUIREMENTS AND STANDARD TOILET TOOM ACCESSORY MOUNTING HEIGHTS ON A-001 FOR ADDITIONAL INFORMATION UNLESS OTHERWISE NOTED.



A **WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT**
* 04A AT WOMEN'S RESTROOMS

B **AMBULATORY ACCESSIBLE TOILET COMPARTMENT**
* 04A AT WOMEN'S RESTROOMS

C **TOILET COMPARTMENT**
* 04A AT WOMEN'S RESTROOMS

GENERAL TOILET ROOM NOTES

A. REFERENCE STANDARD PLUMBING FIXTURE REQUIREMENTS AND STANDARD TOILET TOOM ACCESSORY MOUNTING HEIGHTS ON A-001 FOR ADDITIONAL INFORMATION UNLESS OTHERWISE NOTED.
B. REFERENCE STANDARD TOILET COMPARTMENTS - TYPICAL ACCESSORIES ON A-002 FOR TOILET ROOM ACCESSORIES LOCATED IN STALLS.

KEYNOTES (SPEC BASED)

061600.A00

042000.A01	FACE BRICK
051200.A00	STRUCTURAL STEEL FRAMING
064116.H10	HARDWARE, CLOTHES ROD, 1" DIAMETER
083113.B06	ACCESS DOORS AND FRAMES - RECESSED ACCESS DOOR WITH CONCEALED FLANGE
084113.A01	ALUMINUM-FRAMED ENTRANCES AND STOREFRONT
084113.B03	ALUMINUMFRAMED ENTRANCES AND STOREFRONTS - EXTERIOR, 6" FRAME DEPTH
087113.E03	AUTOMATIC DOOR OPERATOR - WALL MOUNTED ACTUATOR, FLUSH MOUNT
093000.B01	TILE, REFER TO FINISH PLAN FOR TYPE
104413.A00	FIRE PROTECTION CABINET
220000.A00	PLUMBING EQUIPMENT/FIXTURE REFERENCE PLUMBING DRAWINGS

KEYNOTES (ACTION/GENERAL)

00-A1

11-A2	PROVIDE BLOCKING AS REQUIRED FOR FUTURE EQUIPMENT

IndyPL Fort Ben Branch Library
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SHEET ISSUE

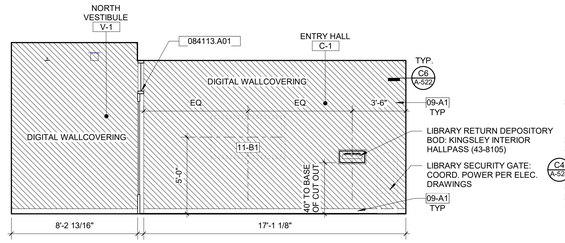
1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

PROJECT NO. 18005.000

SHEET TITLE
ENLARGED PLANS - RESTROOMS

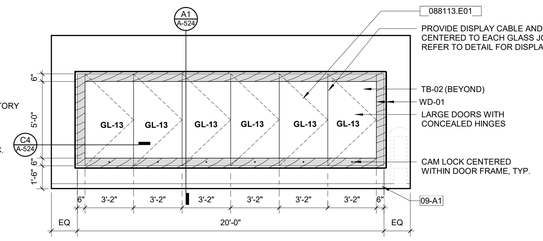
SHEET NUMBER
A-402

10/28/2021 11:46:45 PM



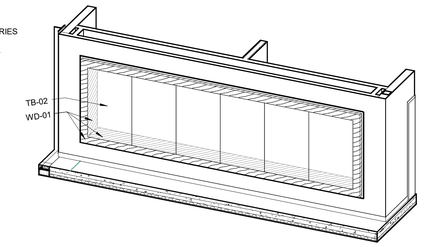
F1 A-502 **INT ELEV- Entry Hall East**

1/4" = 1'-0"

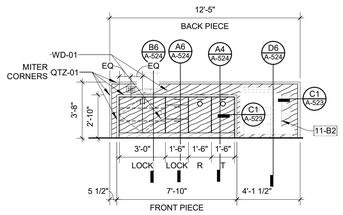


F2 A-502 **INT ELEV- Entry Hall, Heritage Display**

1/4" = 1'-0"

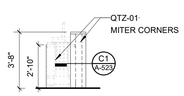


F4 A-502 **AXON- Entry Hall, Heritage Display**



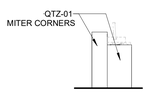
E1 A-502 **INT ELEV- Public Print East**

1/4" = 1'-0"



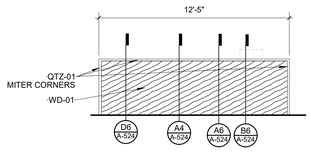
E2 A-502 **INT ELEV- Public Print North**

1/4" = 1'-0"



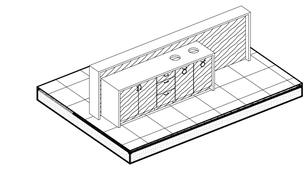
E3 A-502 **INT ELEV- Public Print South**

1/4" = 1'-0"

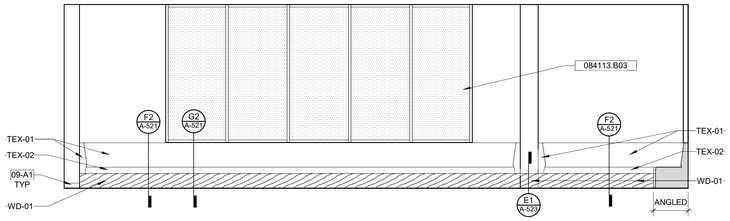


E4 A-502 **INT ELEV- Public Print West**

1/4" = 1'-0"

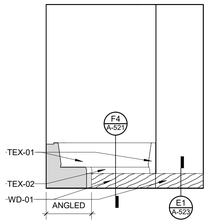


E6 A-502 **AXON- Public Print**



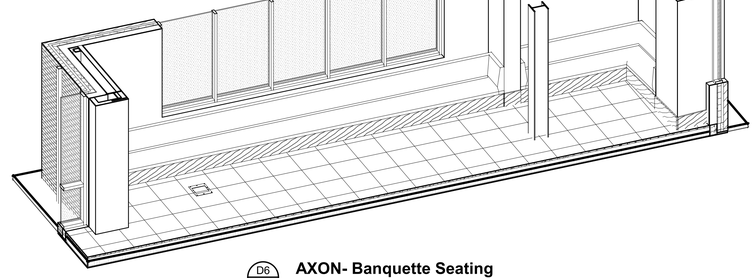
D1 A-502 **INT ELEV- Banquette East**

1/4" = 1'-0"

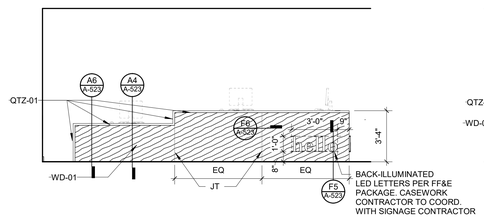


D3 A-502 **INT ELEV- Banquette South**

1/4" = 1'-0"

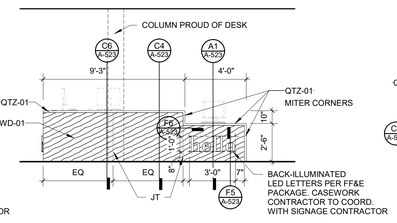


D6 A-502 **AXON- Banquette Seating**



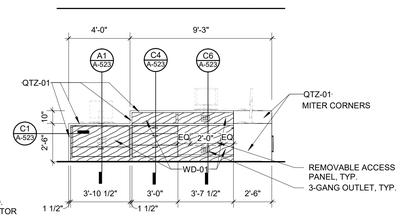
C1 A-502 **INT ELEV- Circulation Desk Public East**

1/4" = 1'-0"



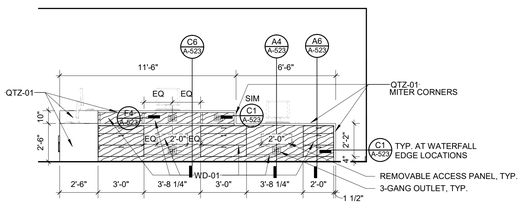
C3 A-502 **INT ELEV- Circulation Desk Public North**

1/4" = 1'-0"



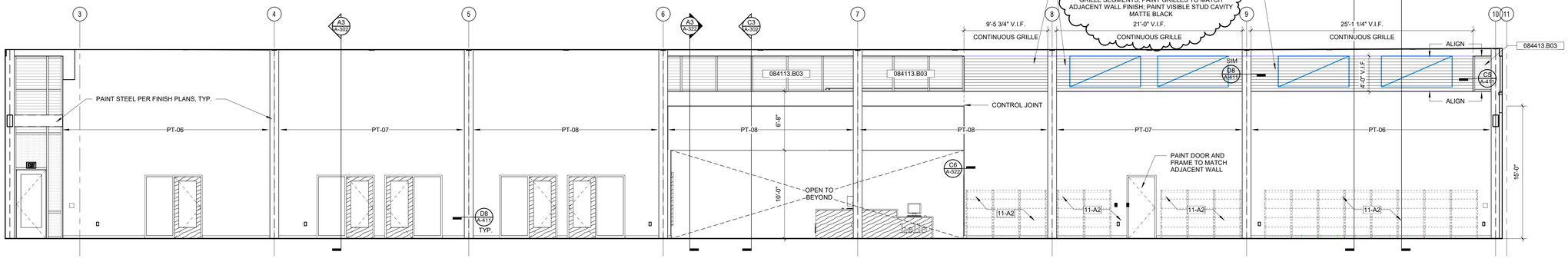
C4 A-502 **INT ELEV- Circulation Desk Staff South**

1/4" = 1'-0"



C6 A-502 **INT ELEV- Circulation Desk Staff West**

1/4" = 1'-0"



A1 A-502 **INT ELEV- South Bar North (Feature Wall)**

3/16" = 1'-0"

KEYNOTES (SPEC BASED)

061600.A00

084113.A01	ALUMINUM-FRAMED ENTRANCES AND STOREFRONT
084113.B03	ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS - EXTERIOR, 6" FRAME DEPTH
084413.B03	GLAZED ALUMINUM CURTAIN WALLS - 7 1/2" FRAME DEPTH
088113.E01	LAMINATED GLASS

KEYNOTES (ACTION/GENERAL)

00-A1

09-A1	WALL BASE, REFER TO FINISH PLAN FOR TYPE
11-A2	PROVIDE BLOCKING AS REQUIRED FOR FUTURE EQUIPMENT
11-B1	OWNER PROVIDED EQUIPMENT - MONITOR (PROVIDE BLOCKING AS REQUIRED)
11-B2	OWNER PROVIDED EQUIPMENT - COPIER

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SHEET ISSUE

1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

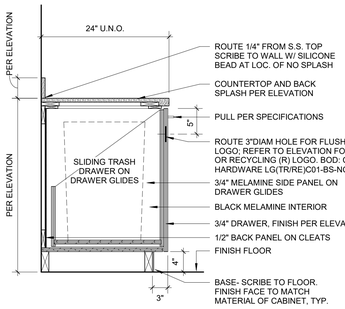
RATIO

PROJECT NO. 18005.000

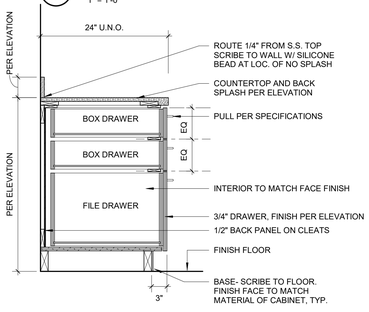
SHEET TITLE
INTERIOR ELEVATIONS

SHEET NUMBER
A-502

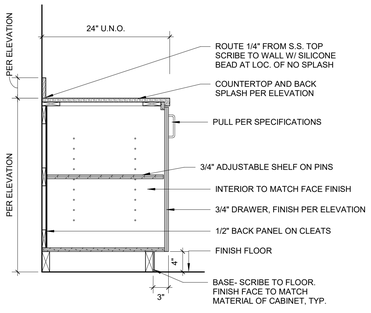
10/29/2021 1:20:09 AM



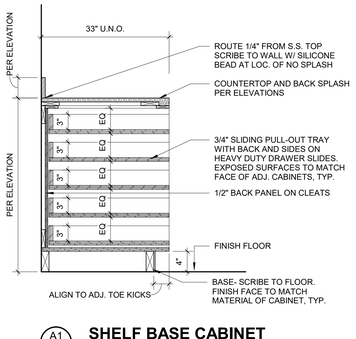
G1 A-521 **TRASH BASE CABINET**
1" = 1'-0"



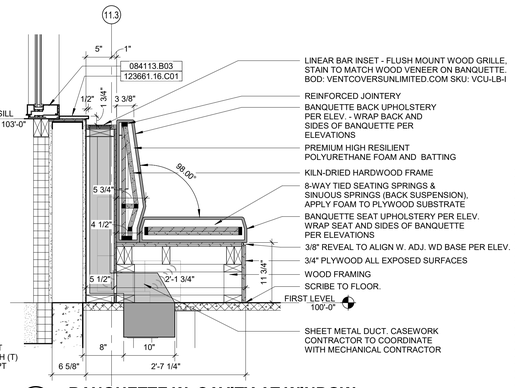
F1 A-521 **DRAWER BASE CABINET**
1" = 1'-0"



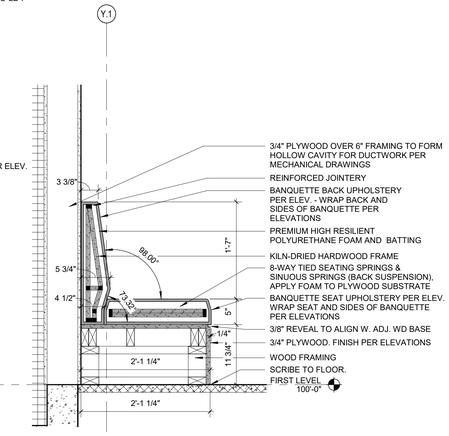
C1 A-521 **DOOR BASE CABINET W. ADJ SHELVES**
1" = 1'-0"



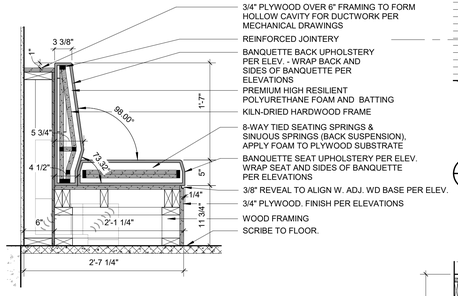
A1 A-521 **SHELF BASE CABINET**
1" = 1'-0"



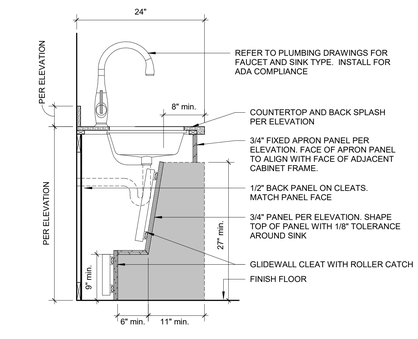
G2 A-521 **BANQUETTE W. CAVITY AT WINDOW**
1" = 1'-0"



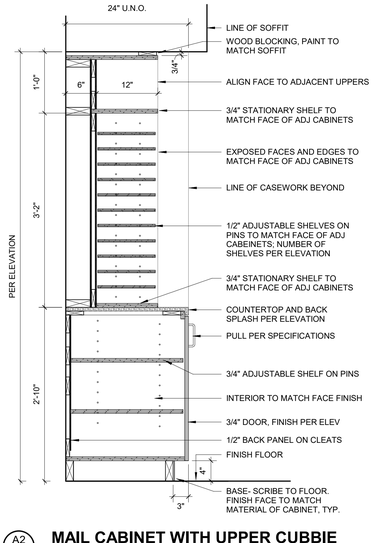
F4 A-521 **BANQUETTE WO. CAVITY**
1" = 1'-0"



F2 A-521 **BANQUETTE W. CAVITY AT WALL**
1" = 1'-0"

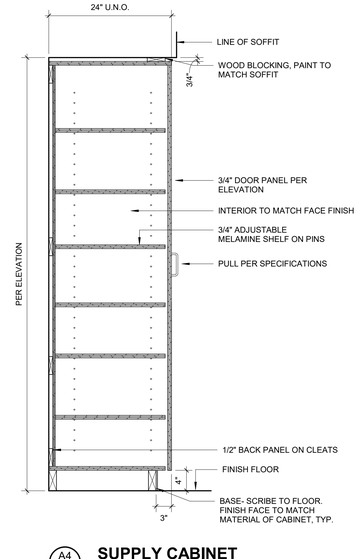


C2 A-521 **TYP. KITCHEN SINK BASE ADA**
1" = 1'-0"

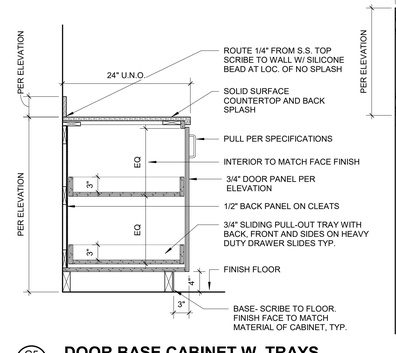


A2 A-521 **MAIL CABINET WITH UPPER CUBBIE**
1" = 1'-0"

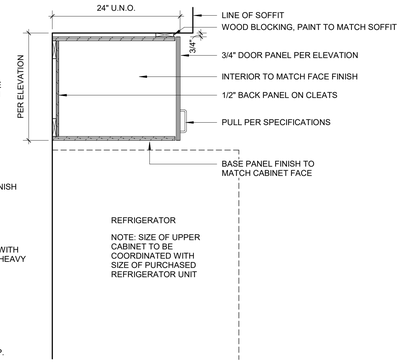
C4 A-521 **UPPER CABINET**
1" = 1'-0"



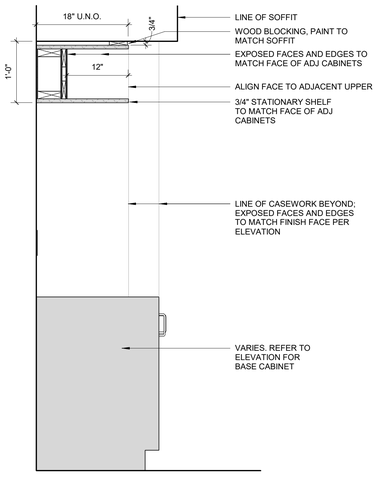
A4 A-521 **SUPPLY CABINET**
1" = 1'-0"



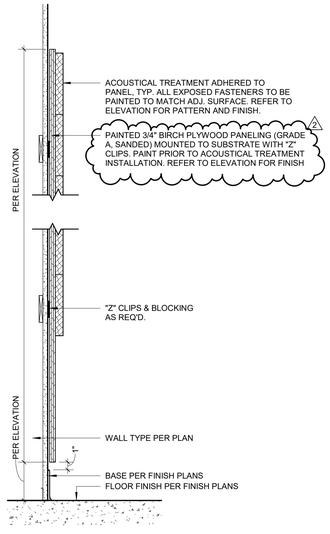
G5 A-521 **DOOR BASE CABINET W. TRAYS**
1" = 1'-0"



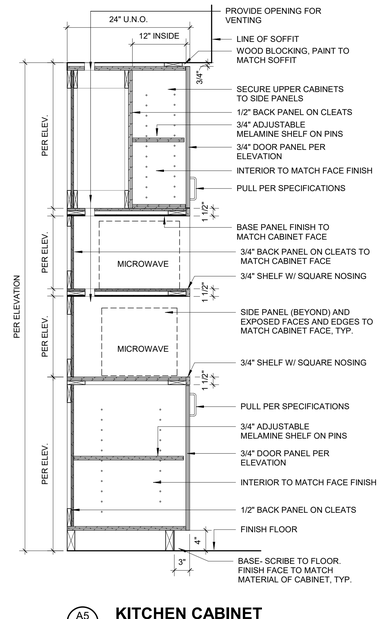
G6 A-521 **KITCHEN UPPER CABINET**
1" = 1'-0"



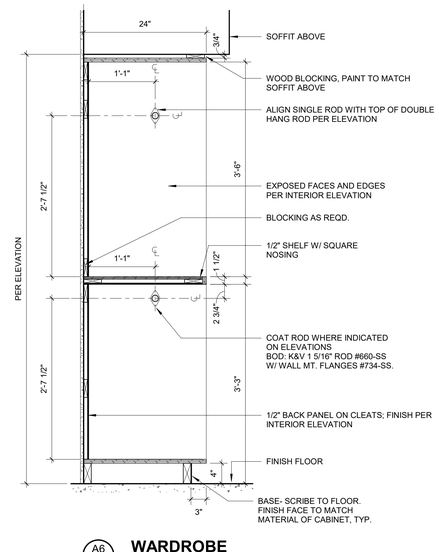
C5 A-521 **UPPER CUBBIE WITH DISPLAY**
1" = 1'-0"



C6 A-521 **ACOUSTIC TREATMENT**
1 1/2" = 1'-0"



A5 A-521 **KITCHEN CABINET**
1" = 1'-0"



A6 A-521 **WARDROBE**
1" = 1'-0"

10/28/2021 10:55:20 PM

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The INDIANAPOLIS PUBLIC Library

SEAL | DATE

SHEET ISSUE

1	100% CONSTRUCTION SET	09/24/2021
2	ADDENDUM 3	10/29/2021

RATIO

PROJECT NO. 18005.000

SHEET TITLE
INTERIOR DETAILS

SHEET NUMBER
A-521

ELECTRICAL SYMBOLS LEGEND

LIGHTING SYMBOLS:

- CEILING MOUNTED LIGHT FIXTURE
- LINEAR LIGHT FIXTURE
- ROUND DOWNLIGHT TYPE LIGHT FIXTURE
- SQUARE DOWNLIGHT TYPE LIGHT FIXTURE
- ROUND PENDANT TYPE LIGHT FIXTURE
- SQUARE PENDANT TYPE LIGHT FIXTURE
- WALL MOUNTED SCONCE TYPE LIGHT FIXTURE
- CELING MOUNTED EXIT LIGHT WITH DIRECTIONAL ARROWS
- CELING MOUNTED EXIT LIGHT WITH SINGLE FACE (SHADED AREA)
- CELING MOUNTED EXIT LIGHT WITH DOUBLE FACE (SHADED AREA)
- WALL MOUNTED EXIT LIGHT WITH DIRECTIONAL ARROWS
- POLE TYPE LIGHT FIXTURE WITH POST TOP
- ROUND BOLLARD TYPE LIGHT FIXTURE
- SQUARE BOLLARD TYPE LIGHT FIXTURE
- IN-GRADE TYPE LIGHT FIXTURE
- SQUARE HIGH-BAY/LOW-BAY LIGHT FIXTURE
- ROUND HIGH-BAY/LOW-BAY LIGHT FIXTURE
- EMERGENCY WALL MOUNT LIGHT FIXTURE
- EMERGENCY CEILING MOUNT LIGHT FIXTURE
- HATCHING INDICATES EMERGENCY FOR ANY OF THE ABOVE LIGHT FIXTURE TYPES.
- HATCHING AND "NL" INDICATES EMERGENCY AND NIGHTLIGHT (ALWAYS ON) FOR ANY OF THE ABOVE LIGHT FIXTURE TYPES.
- WALL MOUNTED OCCUPANCY SENSOR
- ^{4} TOGGLE SWITCH - LEG "a"
- $^{3}_{a}$ TOGGLE SWITCH - 3-WAY, LEG "a"
  - 4=4-WAY
  - D=DIMMER
  - OS=OCCUPANCY SENSOR
  - K=KEY
  - M=MOMENTARY
  - P=PILOT LIGHT
- OS CEILING MOUNTED MOTION SENSOR
- CONTROL STATION

POWER SYMBOLS:

- DUPLEX RECEPTACLE
- "SPECIAL" RECEPTACLE- TYPE AS NOTED ON THE DRAWINGS
- SIMPLEX RECEPTACLE
- QUADRAPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- JUNCTION BOX
- FLOOR BOX
- MOTOR
- DISCONNECT SWITCH
- COMBINATION CONTROLLER (STARTER/DISCONNECT SWITCH)
- PUSH BUTTON
- S^{T} MANUAL CONTROLLER WITH THERMAL OVERLOADS
- T TRANSFORMER
- PANEL, SEE DRAWINGS AND SPECIFICATIONS
- PANEL, SEE DRAWINGS AND SPECIFICATIONS
- XX-XXX PANEL IDENTIFICATION

WIRING:

- PHASE WIRE
- TYPICAL CONDUIT
- CONDUIT OR RACEWAY HOMERUN
- GROUND
- NEUTRAL
- CONDUIT CAP
- EQUIPMENT CONNECTION
- CONDUIT UP/DOWN
- GROUND

SIGNAL/COMMUNICATIONS:

- VOICE JACK
- DATA JACK
- DATA/VOICE JACK
- BELOW THE CEILING DATA ONLY JACK FOR WIRELESS
- ABOVE THE CEILING DATA ONLY JACK FOR WIRELESS
- V VOLUME CONTROL
- CLOCK
- S WALL MOUNTED SPEAKER
- S CEILING MOUNTED SPEAKER
- H HEAT DETECTOR
- S SMOKE DETECTOR
- F FIRE ALARM MANUAL PULL STATION
- F FIRE ALARM AUDIO/VISUAL
- F EXISTING FIRE ALARM AUDIO/VISUAL
- FIRE ALARM VISUAL ONLY
- B BELL
- FS SPRINKLER FLOW SWITCH
- OS&Y SPRINKLER SUPERVISED SWITCH
- C CAMERA
- C WALL MOUNTED CAMERA
- MD MOTION DETECTOR
- MD WALL MOUNTED MOTION DETECTOR
- CR CARD READER
- PR PROXIMITY READER
- NURSE CALL DOME LIGHT WALL MOUNTED Z=ZONE LIGHT
- NURSE CALL DOME LIGHT CEILING MOUNTED Z=ZONE LIGHT
- N NURSE CALL EMERGENCY DEVICE
  NC = NURSE CONSOLE (VOIP), DESK MOUNTED U.O.N.
  E = EMERGENCY PULL CORD STATION - PROVIDE CORD TO WITHIN 2" OF FLOOR. FOR SHOWER STATIONS, MOUNT AT 6'-6" A.F.F.
  EC = EMERGENCY PULL CORD STATION WITH CANCEL BUTTON. PROVIDE CORD TO WITHIN 2" OF FLOOR.
  MSTR = NURSE CALL MASTER STATION.
- NCEQ NURSE CALL WALL-MOUNTED EQUIPMENT CABINET WITH POWER SUPPLY AND ETHERNET SWITCHES.
- P PANIC BUTTON
- DO DOOR PUSH PAD

GENERAL SYMBOLS:

- NEW
- EXISTING
- DEMOLITION
- 1 PLAN NOTE

GENERAL ELECTRICAL NOTES:
(APPLY TO ALL ELECTRICAL SHEETS)

1. PRIOR TO ANY ELECTRICAL OR SYSTEMS ROUGH-INS, MEET ON SITE FOR VERIFICATION OF EXACT LOCATION WITH OWNER AND ARCHITECT.

2. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY AND SHALL NOT BE SCALED FOR PURPOSES OF EQUIPMENT OR DEVICE LOCATIONS.

3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH CODE REQUIRED CLEARANCES AND OTHER TRADES, AND ACCESSIBILITY FOR OPERATION AND MAINTENANCE AS RECOMMENDED BY MANUFACTURERS.

4. REFER TO ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS AND COORDINATE LOCATIONS OF DEVICES AND EQUIPMENT ACCORDINGLY.

5. BRING ANY DISCREPANCIES BETWEEN THE DRAWING TO THE ATTENTION OF THE ARCHITECT.

6. WRITTEN REQUEST FOR POWER OUTAGES SHALL BE SUBMITTED TO THE PROJECT MANAGER A MINIMUM OF 14-DAYS PRIOR TO THE REQUEST TIME FOR THE OUTAGE. THE REQUEST SHALL INCLUDE DURATION OF THE OUTAGE AND DETAIL ON AREAS OF THE BUILDING THAT WILL BE WITHOUT POWER DURING THE OUTAGE.

7. ALL NECESSARY POWER OUTAGES SHALL BE OF THE SHORTEST POSSIBLE DURATION.

8. THE CONTRACTOR IS ADVISED THAT NECESSARY SHUTDOWNS MAY BE REQUIRED TO OCCUR AT TIMES OUTSIDE OF NORMAL WORKING OR OPERATING HOURS TO ACCOMMODATE SCHEDULE. THE CONTRACTOR SHALL INCLUDE COSTS, IN HIS BID, FOR ANY OVERTIME WORK, OR WORK PERFORMED OUTSIDE OF NORMAL WORKING OR OPERATING HOURS.

9. ALL NEW RECEPTACLES, SWITCHES, ETC. ARE TO BE INSTALLED FLUSH MOUNTED IN WALLS UNLESS SPECIFICALLY INDICATED OTHERWISE,

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SEAL | DATE 10/28/2021

STEPHEN B. CULBERT REGISTERED No. PE19400288 STATE OF INDIANA PROFESSIONAL ENGINEER

SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/2021

PROJECT NO. 18005.000

SHEET TITLE
ELECTRICAL SYMBOLS & ABBREVIATIONS

SHEET NUMBER
E001

10/29/2021 10:09:57 AM

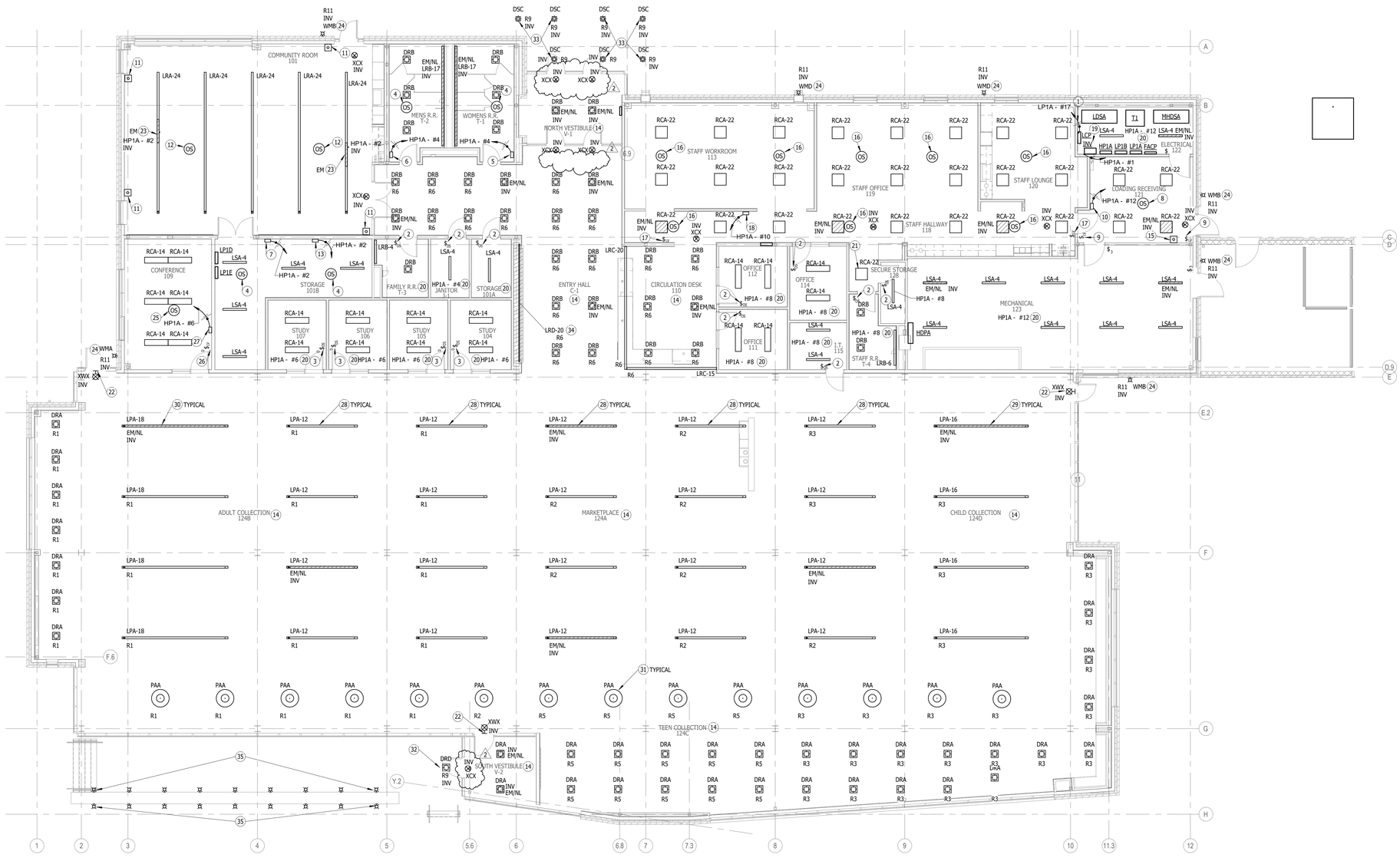
PLAN NOTES:

1. PROVIDE LIGHTING RELAY PANEL. SEE DETAIL #1 ON SHEET E504.
2. PROVIDE SWITCH BOX MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR CONTROL OF LIGHT FIXTURES IN THIS ROOM. SEE DETAIL #2 ON SHEET E502.
3. PROVIDE SWITCH BOX MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR WITH DIMMING FOR CONTROL OF LIGHT FIXTURES IN THIS ROOM. SEE DETAIL #3 ON SHEET E502.
4. PROVIDE CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR LIGHTING CONTROL SYSTEM IN THIS ROOM. SEE DETAIL #4 ON SHEET E502.
5. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN WOMENS RESTROOM T-1. LOCATE ABOVE CEILING IN ACCESSIBLE LOCATION. SEE DETAIL #4 ON SHEET E502.
6. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN MENS RESTROOM T-2. LOCATE ABOVE CEILING IN ACCESSIBLE LOCATION. SEE DETAIL #4 ON SHEET E502.
7. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN STORAGE 101B . LOCATE IN ACCESSIBLE LOCATION +10' ABOVE FINISHED FLOOR IN AREAS WITH OPEN CEILING. SEE DETAIL #4 ON SHEET E502.
8. PROVIDE CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR CONTROL OF LIGHT FIXTURES IN RECEIVING 121. SEE DETAIL #5 ON SHEET E502.
9. PROVIDE LOW-VOLTAGE SWITCH FOR ON/OFF CONTROL OF OCCUPANCY SENSOR LIGHTING IN RECEIVING 121. SEE DETAIL #5 ON SHEET E502.
10. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN RECEIVING 121. LOCATE ABOVE CEILING IN ACCESSIBLE LOCATION. SEE DETAIL #5 ON SHEET E502.
11. PROVIDE LIGHTING CONTROL STATION FOR THE ARCHITECTURAL LIGHTING CONTROL SYSTEM IN COMMUNITY ROOM 101. SEE DETAIL #1 ON SHEET E503.
12. PROVIDE CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR THE ARCHITECTURAL LIGHTING CONTROL SYSTEM IN COMMUNITY ROOM 101. SEE DETAIL #1 ON SHEET E503.
13. PROVIDE ARCHITECTURAL LIGHTING CONTROL SYSTEM ROOM CONTROLLER FOR CONTROL OF LIGHT FIXTURES IN COMMUNITY ROOM 101. LOCATE IN ACCESSIBLE LOCATION +10' ABOVE FINISHED FLOOR IN AREAS WITH OPEN CEILING. SEE DETAIL #1 ON SHEET E503.
14. PROVIDE RELAY SYSTEM CONTROL OF LIGHT FIXTURES IN THIS ROOM. SEE DETAIL #1 ON SHEET E504.
15. PROVIDE LIGHTING CONTROL STATION FOR LIGHTING RELAY PANEL. SEE DETAIL #1 AND DETAIL #2 ON SHEET E504.
16. PROVIDE CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR CONTROL OF LIGHT FIXTURES IN STAFF WORKROOM 113, STAFF OFFICE 119, AND STAFF LOUNGE 120. SEE DETAIL #5 ON SHEET E502.
17. PROVIDE LOW-VOLTAGE SWITCH FOR ON/OFF CONTROL OF OCCUPANCY SENSOR LIGHTING IN STAFF WORKROOM 113, STAFF OFFICE 119, AND STAFF LOUNGE 120. SEE DETAIL #5 ON SHEET E502.
18. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN STAFF WORKROOM 113, STAFF HALLWAY 118, STAFF OFFICE 119, AND STAFF LOUNGE 120. LOCATE ABOVE CEILING IN ACCESSIBLE LOCATION. SEE DETAIL #5 ON SHEET E502.
19. PROVIDE LIGHTING INVERTER. SEE INVERTER SCHEDULE ON SHEET E702.
20. ALL LIGHT FIXTURES IN THIS ROOM SHALL BE CIRCUITED AS INDICATED.
21. CIRCUIT LIGHT FIXTURE AS PART OF STAFF HALLWAY 118. SEE PLAN NOTE #18 THIS SHEET.
22. MOUNT EXIT SIGN WITH BOTTOM EDGE EVEN WITH BOTTOM EDGE OF MULLION ABOVE DOOR. INSTALL WIRING CONCEALED WITHIN STOREFRONT SYSTEM. COORDINATE INSTALLATION WITH CONTRACTOR RESPONSIBLE FOR STOREFRONT.
23. PROVIDE EMERGENCY SECTION OF FIXTURE WITH EMERGENCY TRANSFER DEVICE TO TRANSFER SECTION TO INVERTER AND DRIVE DIMMING TO FULL ON IN THE EVENT OF FAILURE OF THE NORMAL LIGHTING CIRCUIT.
24. INSTALL EXTERIOR WALL MOUNTED FIXTURES WITH TOP OF FIXTURE AT +12-FEET ABOVE FINISHED BUILDING FLOOR ELEVATION.
25. PROVIDE CEILING MOUNTED MULTI-TECHNOLOGY OCCUPANCY SENSOR FOR CONTROL OF LIGHT FIXTURES IN CONFERENCE 109. SEE DETAIL #7 ON SHEET E502.
26. PROVIDE LOW-VOLTAGE SWITCH/0-10V CONTROLLER FOR ON/OFF CONTROL OF OCCUPANCY SENSOR LIGHTING IN CONFERENCE 109. SEE DETAIL #7 ON SHEET E502.
27. PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL RELAY FOR CONTROL OF LIGHT FIXTURES IN CONFERENCE 109. LOCATE ABOVE CEILING IN ACCESSIBLE LOCATION. SEE DETAIL #7 ON SHEET E502.
28. PENDANT MOUNT LIGHT FIXTURE AT +16'-6" A.F.F. TYPICAL TYPE 'LPA-12'.
29. PENDANT MOUNT LIGHT FIXTURE AT +16'-6" A.F.F. TYPICAL TYPE 'LPA-16'.
30. PENDANT MOUNT LIGHT FIXTURE AT +16'-6" A.F.F. TYPICAL TYPE 'LPA-18'.
31. PENDANT MOUNT LIGHT FIXTURE AT +12'-6" A.F.F. TYPICAL TYPE 'PAA'.
32. INSTALL RECESSED FIXTURE IN BOTTOM PANEL OF CANOPY CENTERED ON DOOR. COORDINATE INSTALLATION WITH STRUCTURAL FRAMING.
33. INSTALL SURFACE MOUNTED FIXTURES ON UNDERSIDE OF CANOPY BOTTOM PANEL. RECESS MOUNT JUNCTION BOX INSIDE CANOPY AND INSTALL WIRING CONCEALED WITHIN CANOPY. COORDINATE INSTALLATION WITH STRUCTURAL FRAMING.
34. INSTALL MINIATURE, LOW-VOLTAGE TRACK LIGHTING IN TOP AND BOTTOM PANELS OF DISPLAY CASE. TRACK TO EXTENDED FROM SIDE-TO-SIDE. REFER TO ARCHITECTURAL DETAILS FOR INSTALLATION. COORDINATE WITH CONTRACTOR RESPONSIBLE FOR PROVIDING DISPLAY CASE.
35. REFER TO SHEET ES101 FOR LIGHTING ALONG RAMP.

GENERAL NOTES:

A. REFER TO SHEET E001 FOR GENERAL NOTES.

B. COORDINATE AND VERIFY LOCATIONS AND MOUNTING HEIGHTS OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS AND SHOP DRAWINGS PRIOR TO ROUGH-INS.



1 E201 **FIRST FLOOR LIGHTING PLAN**

1/8" = 1'-0"

10/27/2021 6:28:24 PM

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SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/202 1

RATIO

PROJECT NO. 18005.000

SHEET TITLE
FIRST FLOOR LIGHTING PLAN

SHEET NUMBER
E201

LUMINAIRE (LIGHT FIXTURE) SCHEDULE

ABBREVIATIONS

MOUNTING (MTG)	SOURCE
CL - CEILING SURFACE	CF - COMPACT FLUORESCENT
CV - COVE	CMH - CERAMIC METAL HALIDE
O - OTHER (SEE DESCRIPTION)	FL - FLUORESCENT
RE - RECESSED	LED - LIGHT EMITTING DIODE
SP - SUSPENDED	MH - METAL HALIDE
S - SURFACE	O - OTHER (SEE DESCRIPTION)
UC - UNDER CABINET	
WL - WALL	

GENERAL NOTES

1. REFER TO SPECIFICATION SECTION 265113 "LUMINAIRE LIST" FOR ADDITIONAL LUMINAIRE (LIGHT FIXTURE) INFORMATION AND REQUIREMENTS.

2. REFER TO SECTION 265100 "LIGHTING EQUIPMENT" AND SECTION 265200 "EMERGENCY LIGHTING EQUIPMENT" FOR ADDITIONAL RELATED LIGHTING EQUIPMENT REQUIREMENTS.

3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS. CONTRACTOR TO VERIFY COMPATIBILITY OF LUMINAIRES (LIGHT FIXTURES) WITH CEILING MATERIAL, ADJACENT FINISHES, ADJACENT CONSTRUCTION AND MATERIALS PRIOR TO SHOP DRAWING SUBMITTAL AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION. CONTRACTORS TO COORDINATE ALL LUMINAIRE (LIGHT FIXTURE) TRIMS AND TRIM FINISHES TO MATCH THE CEILING SYSTEMS, BOTH AS SPECIFIED AND AS SUCCESSFULLY AWARDED, PURCHASED CEILING SYSTEMS. MULTIPLE TRIM COLORS AND TILES MAY BE NEEDED FOR EACH LUMINAIRE (LIGHT FIXTURE) TYPE.

4. REFER TO LIGHTING PLANS AND PANEL SCHEDULES FOR VOLTAGE INFORMATION.

5. DEFINITIONS:
a. DESIGN BASIS MANUFACTURER: WHERE LISTED IN EACH RESPECTIVE LUMINAIRE SCHEDULE, THE "DESIGN BASIS" MANUFACTURER MODEL SERIES NUMBER SHALL SERVE TO INDICATE THE LEVEL OF QUALITY AND MINIMUM REQUIREMENTS FOR THE LUMINAIRE TO BE FURNISHED.
b. ACCEPTABLE MANUFACTURER: WHERE ACCEPTABLE MANUFACTURERS ARE LISTED IN EACH RESPECTIVE LUMINAIRE SCHEDULE, THIS SHALL BE INTERPRETTED TO MEAN THAT LUMINAIRES BY THE LISTED MANUFACTURERS WILL BE ACCEPTABLE AS EQUALS TO THE "DESIGN BASIS" MANUFACTURER LUMINAIRE PROVIDED THAT THE MANUFACTURER DEMONSTRATES FULL COMPLIANCE WITH ALL OF THE REQUIREMENTS CONTAINED IN THESE CONTRACT DOCUMENTS.

6. PRODUCT SAMPLES: THE ENGINEER/DESIGNER RESERVES THE RIGHT TO REQUEST AN ENGINEERING SAMPLE PRODUCT OF EACH AND EVERY LUMINAIRE FOR INSPECTION. SAMPLES SUBMITTED SHALL BE IN FULL COMPLIANCE WITH THE SPECIFICATIONS INCLUDING BUT NOT LIMITED TO CONSTRUCTION, DESIGN, VISUAL APPEARANCE, AND PERFORMANCE. THE MANUFACTURER SHALL HAVE PREVIOUSLY BUILT THE LUMINAIRE AND THE LUMINAIRE SHALL BE A PRODUCTION ITEM. THE SAMPLE SHALL REMAIN ON FILE AS COMPARISON WITH THE MATERIALS FURNISHED ON THE PROJECT. MATERIALS NOT EQUAL TO THE APPROVED SAMPLE WILL BE REJECTED.

<<<<7. CASH ALLOWANCES: SEE SPECIFICATION SECTION 265100 PARAGRAPH 1.7 "ALLOWANCES".>>>>

TYPE	DESCRIPTION	DIMENSIONS (MAX) L	W	H	DIA	MTG	SOURCE	LUMENS (MIN)	INPUT WATTS (MAX)	EM WATTS (MAX)	CRI (MIN)	CCT	DRIVER	FINISH	LISTING	DESIGN BASIS MANUFACTURER	ACCEPTABLE MANUFACTURER	REMARKS
DRA	6" SQUARE DOWNLIGHT HOUSING: 16 GAUGE COLD-ROLLED STEEL DIE CAST ALUMINUM MOUNTING GRIPS REFLECTOR: SPECULAR, 45 DEGREE BEAM LOCATION: GENERAL	1' - 2 3/4"	1' - 2 3/4"	0' - 6"	0' - 0"	RE	LED	1624 L	19 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	PRESCOLITE "LTR-6SQD" SERIES	1. GOTHAM 2. PORTFOLIO	
DRB	6" SQUARE DOWNLIGHT HOUSING: 16 GAUGE COLD-ROLLED STEEL DIE CAST ALUMINUM MOUNTING GRIPS REFLECTOR: SPECULAR, 45 DEGREE BEAM LOCATION: GENERAL	1' - 2 3/4"	1' - 2 3/4"	0' - 6"	0' - 0"	RE	LED	1624 L	19 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	PRESCOLITE "LTR-6SQD" SERIES	1. GOTHAM 2. PORTFOLIO	
DRD	6" SQUARE DOWNLIGHT HOUSING: 16 GAUGE COLD-ROLLED STEEL DIE CAST ALUMINUM MOUNTING GRIPS REFLECTOR: SPECULAR, 45 DEGREE BEAM LOCATION: GENERAL	1' - 2 3/4"	1' - 2 3/4"	0' - 6"	0' - 0"	RE	LED	906 L	12 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	PRESCOLITE "LTR-6SQD" SERIES	1. GOTHAM 2. PORTFOLIO	
DSC	5" SQUARE SURFACE MOUNTED DOWNLIGHT HOUSING: 16 GAUGE COLD-ROLLED STEEL DIE CAST ALUMINUM MOUNTING GRIPS REFLECTOR: SPECULAR, 45 DEGREE BEAM LOCATION: GENERAL	0' - 5"	0' - 5"	0' - 3 1/2"	0' - 0"	RE	LED	567 L	10 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	PERFORMANCE IN LIGHTING "MIMIK 10" SERIES	1. GOTHAM 2. PORTFOLIO 3. HALO COMMERCIAL	
LPA-12	AIRCRAFT CABLE SUSPENDED LINEAR DIRECT/INDIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS AND FULLY ADJUSTABLE AIRCRAFT CABLE BOTH VERTICALLY AND HORIZONTALLY REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: 33% INDIRECT/67% DIRECT LOCATION: GENERAL	12' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	SP	LED	20964 L	216 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP-4ID" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LPA-16	AIRCRAFT CABLE SUSPENDED LINEAR DIRECT/INDIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS AND FULLY ADJUSTABLE AIRCRAFT CABLE BOTH VERTICALLY AND HORIZONTALLY REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: 33% INDIRECT/67% DIRECT LOCATION: GENERAL	16' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	SP	LED	27952 L	288 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP-4ID" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LPA-18	AIRCRAFT CABLE SUSPENDED LINEAR DIRECT/INDIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS AND FULLY ADJUSTABLE AIRCRAFT CABLE BOTH VERTICALLY AND HORIZONTALLY REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: 33% INDIRECT/67% DIRECT LOCATION: GENERAL	18' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	SP	LED	31446 L	324 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HPX-ID" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRA-24	4" RECESSED LINEAR DIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	24' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	RE	LED	20208 L	170 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP4R" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRB-4	4" RECESSED LINEAR PERIMETER SLOT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	4' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	RE	LED	1268 L	14 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP-WS" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRB-6	4" RECESSED LINEAR PERIMETER SLOT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	6' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	RE	LED	1902 L	22 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP-WS" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRB-17	4" RECESSED LINEAR PERIMETER SLOT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	17' - 0"	0' - 2 1/2"	0' - 2 1/2"	0' - 0"	RE	LED	5389 L	61 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FINELITE "HP-WS" SERIES	1. PINNACLE 2. FOCAL POINT	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRC-15	4" RECESSED LINEAR DIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	15' - 3"	4' - 0"	5' - 0"	0' - 0"	RE	LED	11224 L	109 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FLUXWERX "NOTCH" SERIES	1. PINNACLE 2. FOCAL POINT 3. LUMENWERX	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
LRC-20	4" RECESSED LINEAR DIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	20' - 11"	4' - 0"	5' - 0"	0' - 0"	RE	LED	14965 L	145 W		80	3500K	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	FLUXWERX "NOTCH" SERIES	1. PINNACLE 2. FOCAL POINT 3. LUMENWERX	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.

LUMINAIRE (LIGHT FIXTURE) SCHEDULE - CONTINUED

ABBREVIATIONS

MOUNTING (MTG)	SOURCE
CL - CEILING SURFACE	CF - COMPACT FLUORESCENT
CV - COVE	CMH - CERAMIC METAL HALIDE
O - OTHER (SEE DESCRIPTION)	FL - FLUORESCENT
RE - RECESSED	LED - LIGHT EMITTING DIODE
SP - SUSPENDED	MH - METAL HALIDE
S - SURFACE	O - OTHER (SEE DESCRIPTION)
UC - UNDER CABINET	
WL - WALL	

GENERAL NOTES

1. REFER TO SPECIFICATION SECTION 265113 "LUMINAIRE LIST" FOR ADDITIONAL LUMINAIRE (LIGHT FIXTURE) INFORMATION AND REQUIREMENTS.

2. REFER TO SECTION 265100 "LIGHTING EQUIPMENT" AND SECTION 265200 "EMERGENCY LIGHTING EQUIPMENT" FOR ADDITIONAL RELATED LIGHTING EQUIPMENT REQUIREMENTS.

3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS. CONTRACTOR TO VERIFY COMPATIBILITY OF LUMINAIRES (LIGHT FIXTURES) WITH CEILING MATERIAL, ADJACENT FINISHES, ADJACENT CONSTRUCTION AND MATERIALS PRIOR TO SHOP DRAWING SUBMITTAL AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION. CONTRACTORS TO COORDINATE ALL LUMINAIRE (LIGHT FIXTURE) TRIMS AND TRIM FINISHES TO MATCH THE CEILING SYSTEMS, BOTH AS SPECIFIED AND AS SUCCESSFULLY AWARDED, PURCHASED CEILING SYSTEMS. MULTIPLE TRIM COLORS AND TILES MAY BE NEEDED FOR EACH LUMINAIRE (LIGHT FIXTURE) TYPE.

4. REFER TO LIGHTING PLANS AND PANEL SCHEDULES FOR VOLTAGE INFORMATION.

5. DEFINITIONS:
a. DESIGN BASIS MANUFACTURER: WHERE LISTED IN EACH RESPECTIVE LUMINAIRE SCHEDULE, THE "DESIGN BASIS" MANUFACTURER MODEL SERIES NUMBER SHALL SERVE TO INDICATE THE LEVEL OF QUALITY AND MINIMUM REQUIREMENTS FOR THE LUMINAIRE TO BE FURNISHED.
b. ACCEPTABLE MANUFACTURER: WHERE ACCEPTABLE MANUFACTURERS ARE LISTED IN EACH RESPECTIVE LUMINAIRE SCHEDULE, THIS SHALL BE INTERPRETTED TO MEAN THAT LUMINAIRES BY THE LISTED MANUFACTURERS WILL BE ACCEPTABLE AS EQUALS TO THE "DESIGN BASIS" MANUFACTURER LUMINAIRE PROVIDED THAT THE MANUFACTURER DEMONSTRATES FULL COMPLIANCE WITH ALL OF THE REQUIREMENTS CONTAINED IN THESE CONTRACT DOCUMENTS.

6. PRODUCT SAMPLES: THE ENGINEER/DESIGNER RESERVES THE RIGHT TO REQUEST AN ENGINEERING SAMPLE PRODUCT OF EACH AND EVERY LUMINAIRE FOR INSPECTION. SAMPLES SUBMITTED SHALL BE IN FULL COMPLIANCE WITH THE SPECIFICATIONS INCLUDING BUT NOT LIMITED TO CONSTRUCTION, DESIGN, VISUAL APPEARANCE, AND PERFORMANCE. THE MANUFACTURER SHALL HAVE PREVIOUSLY BUILT THE LUMINAIRE AND THE LUMINAIRE SHALL BE A PRODUCTION ITEM. THE SAMPLE SHALL REMAIN ON FILE AS COMPARISON WITH THE MATERIALS FURNISHED ON THE PROJECT. MATERIALS NOT EQUAL TO THE APPROVED SAMPLE WILL BE REJECTED.

<<<<7. CASH ALLOWANCES: SEE SPECIFICATION SECTION 265100 PARAGRAPH 1.7 "ALLOWANCES".>>>>

TYPE	DESCRIPTION	DIMENSIONS (MAX) L	W	H	DIA	MTG	SOURCE	LUMENS (MIN)	INPUT WATTS (MAX)	EM WATTS (MAX)	CRI (MIN)	CCT	DRIVER	FINISH	LISTING	DESIGN BASIS MANUFACTURER	ACCEPTABLE MANUFACTURER	REMARKS
LRD-20	2" WIDE RECESSED LINEAR TRACK HOUSING: EXTRUDED ALUMINUM. LIGHT FIXTURE ASSEMBLIES TO INSTALL INTO RECESSED TRACK. LOCATION: DISPLAY CASE PROVIDE WITH TRACK HEAD FIXTUES AS INDICATED	20' - 0"	0' - 1 13/32"	0' - 3 13/32"	0' - 0"	RE	LED				-	-	0-10V DIMMING	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	LITELINE "KLICK" SERIES LV TRACK	1. XAL INC. 2. A-LIGHT	1. INSTALL TRACK RECESS MOUNTED IN TOP AND BOTTOM OF DISPLAY CASE. 2. PROVIDE (15) 24" "KL-BAR" (600 L) LINEAR FLOODLIGHT FIXTURES. 3. PROVIDE (6) "ADJUSTABLE 20-DEG SPOT" (550 L) SPOTLIGHT FIXTURES.
LSA-4	4" SURFACE MOUNT LINEAR DIRECT UNIT HOUSING: EXTRUDED ALUMINUM WITH DIE-CAST ENDCAPS AND FULLY ADJUSTABLE AIRCRAFT CABLE BOTH VERTICALLY AND HORIZONTALLY REFLECTOR/LENS: HIGHLY REFLECTIVE DIE-FORMED WHITE PAINTED COLD-ROLLED STEEL REFLECTOR AND FLUSH DIFFUSE SNAP-IN ACRYLIC LENS WITH FROST OR SANDBLASTED FINISH. DISTRIBUTION: DIRECT LOCATION: GENERAL	4' - 0"	0' - 4"	0' - 4"	0' - 0"	S	LED	3300 L	27 W		80	3500K	0-10V DIM	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	COLUMBIA "MPS" SERIES	1. LITHONIA 2. METALUX	1. THE LENS SHALL BE PROVIDED IN INDIVIDUAL SECTIONS OF OVERALL LENGTH REQUIRED FOR A CONTINUOUS APPEARANCE THE ENTIRE LENGTH OF THE COMPLETE UNIT. ANY INDIVIDUAL SECTION OF LENS SHALL NOT BE SHORTER THAN 4'-0" AND SHALL NOT EXCEED 8'-0" IN LENGTH.
PAA	DECORATIVE PENDANT MOUNT ROUND DRUM FIXTURE HOUSING: LAMINATED WOOD/FABRIC LENS: POLYCARBONATE FROSTED BOTTOM LENSES DISTRIBUTION: WIDE LOCATION: GENERAL	0' - 0"	1' - 5"	0' - 8"	3' - 0"	SP	LED	6569 L	112 W		80	3500K	0-10V DIM	AS SELECTED BY ARCHITECT	UL LISTED FOR DAMP LOCATIONS	BARBICAN "DOUBLE DEVO"		1. CONTRACTOR TO INCLUDE INSTALLAITON IN BID. 2. FIXTURES FURNISHED UNDER AN ALLOWANCE.
RCA-14	2X2 RECESSED CEILING TROFFER WITH CENTER OPTIC HOUSING: DIE-FORMED COLD-ROLLED CODE GAUGE STEEL REFLECTOR/LENS: HIGH-REFLECTANCE SHEET METAL REFLECTOR WITH ACRYLIC FROSTED CENTER OPTIC LENS DISTRIBUTION: DIRECT LOCATION: GENERAL	4' - 0"	1' - 0"	0' - 4"	0' - 0"	RE	LED	3397 L	29 W		80	3500 K	0-10V DIM	WHITE POWDER COAT FINISH, PAINTED AFTER FABRICATION.	UL LISTED FOR DAMP LOCATIONS	FINELITE "HPR LED" SERIES	1. MARK LIGHTING 2. FOCAL POINT	1. ALL ELECTRICAL COMPONENTS ACCESSIBLE FROM BELOW.
RCA-22	2X2 RECESSED CEILING TROFFER WITH CENTER OPTIC HOUSING: DIE-FORMED COLD-ROLLED CODE GAUGE STEEL REFLECTOR/LENS: HIGH-REFLECTANCE SHEET METAL REFLECTOR WITH ACRYLIC FROSTED CENTER OPTIC LENS DISTRIBUTION: DIRECT LOCATION: GENERAL	2' - 0"	2' - 0"	0' - 4"	0' - 0"	RE	LED	3397 L	29 W		80	3500K	0-10V DIM	WHITE POWDER COAT FINISH, PAINTED AFTER FABRICATION.	UL LISTED FOR DAMP LOCATIONS	FINELITE "HPR LED" SERIES	1. MARK LIGHTING 2. FOCAL POINT	1. ALL ELECTRICAL COMPONENTS ACCESSIBLE FROM BELOW.
V1	DOUBLE HEAD ARM MOUNT AT 180-DEG. AREA ASSEMBLY WITH 20 FT POLE MOUNTING: TWIN ARM MOUNT HOUSING: DIE-CAST ALUMINUM WITH STAINLESS STEEL HARDWARE POLE: 5" ROUND, .188" THICK, STRAIGHT ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY BASE AND ALUMINUM BOLT COVERS. FIXTURE HEAD TO ATTACH VIA ARM MOUNT. OPTICS: FULLY GASKETED CLEAR LENS DISTRIBUTION: TYPE V - WIDE (ROUND) LOCATION: PARKING LOT	1' - 10"	1' - 10"	0' - 4"	0' - 0"	O	LED	(2) 8822 L	(2) 85 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	KIM "ALT1' TYPE V - WIDE WITH 2SB MOUNT	1. BEGA 2. MCGRAW-EDISON 3. LITHONIA	1. 20-FOOT ROUND POLE.
V2	SINGLE HEAD ARM MOUNT AREA ASSEMBLY WITH 15 FT POLE MOUNTING: ARM MOUNT HOUSING: DIE-CAST ALUMINUM WITH STAINLESS STEEL HARDWARE POLE: 5" ROUND, .188" THICK, STRAIGHT ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY BASE AND ALUMINUM BOLT COVERS. FIXTURE HEAD TO ATTACH VIA ARM MOUNT. OPTICS: FULLY GASKETED CLEAR LENS DISTRIBUTION: TYPE IV LOCATION: PARKING LOT	1' - 10"	1' - 10"	0' - 4"	0' - 0"	O	LED	9171 L	85 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	KIM "ALT1" type 4	1. BEGA 2. MCGRAW-EDISON 3. LITHONIA	1. 15-FOOT ROUND POLE.
WMA	SQUARE WALL MOUNT HIGH EFFICIENCY WEDGE LIGHT HOUSING: EXTRUDED ALUMINUM OPTICS: SPECULAR REFLECTOR AND CLEAR SCREEN ACRYLIC. DISTRIBUTION: 45 DEGREE CUTOFF LOCATION: GENERAL	0' - 11 1/2"	0' - 7"	0' - 9"	0' - 0"	WL	LED	1964 L	18 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	HUBBELL "TRP1 GeoPaK TRAPEZOID" SERIES	1. BEGA 2. MCGRAW-EDISON 3. LITHONIA	1. TYPE III DISTRIBUTION 2. IP68 RATED.
WMB	SQUARE WALL MOUNT HIGH EFFICIENCY WEDGE LIGHT HOUSING: EXTRUDED ALUMINUM OPTICS: SPECULAR REFLECTOR AND CLEAR SCREEN ACRYLIC. DISTRIBUTION: 45 DEGREE CUTOFF LOCATION: GENERAL	0' - 11 1/2"	0' - 7"	0' - 9"	0' - 0"	WL	LED	1922 L	18 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	HUBBELL "TRP1 GeoPaK TRAPEZOID" SERIES	1. BEGA 2. MCGRAW-EDISON 3. LITHONIA	1. TYPE IV DISTRIBUTION 2. IP68 RATED.
WMC	LOW PROFILE LINEAR STEP LIGHT HOUSING: EXTRUDED ALUMINUM OPTICS: SPECULAR REFLECTOR AND CLEAR SCREEN ACRYLIC. DISTRIBUTION: 45 DEGREE CUTOFF LOCATION: GENERAL	0' - 11 3/16"	0' - 2 3/4"	0' - 2 9/16"	0' - 0"	WL	LED	116 L	11 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	DELTA LIGHT "304 32 01 83"	1. BEGA 2. MCGRAW-EDISON	1. TYPE III DISTRIBUTION 2. IP68 RATED.
WMD	SQUARE WALL MOUNT HIGH EFFICIENCY WEDGE LIGHT HOUSING: EXTRUDED ALUMINUM OPTICS: SPECULAR REFLECTOR AND CLEAR SCREEN ACRYLIC. DISTRIBUTION: 45 DEGREE CUTOFF LOCATION: GENERAL	0' - 11 1/2"	0' - 7"	0' - 9"	0' - 0"	WL	LED	3062 L	32 W		70	3000K	ELECTRONIC	AS SELECTED BY ARCHITECT	UL LISTED FOR WET LOCATIONS	HUBBELL "TRP1 GeoPaK TRAPEZOID" SERIES	1. BEGA 2. MCGRAW-EDISON 3. LITHONIA	1. TYPE IV DISTRIBUTION 2. IP68 RATED.
XCX	CEILING MOUNTED CAST ALUMINUM EXIT SIGN. FINISH: WHAITE PAINTED. ARROWS/LETTERING COLOR: GREEN. SPECIAL NOTE: ARROWS TO BE AS SHOWN ON DRAWINGS OR AS REQUIRED. THE UNIT SHALL BE SINGLE OR DOUBLE FACED AS SHOWN ON THE DRAWINGS OR AS REQUIRED. THE UNIT SHALL BE COMPLETE WITH UNIVERSAL CANOPY TO ALLOW FOR CEILING, WALL OR END MOUNTING AS REQUIRED. THE CONTRACTOR SHALL VERIFY ALL SINGLE OR DOUBLE FACE REQUIREMENTS, ARROW REQUIREMENTS AND MOUNTING REQUIREMENTS. LOCATION: GENERAL.	1' - 1"	0' - 2"	0' - 9"	0' - 0"	CL	LED		2W	2W				WHITE	UL 924 LISTED	DUAL LITE "SE" SERIES	1. LITHONIA 2. SURE-LITES	1. PROVIDE SELF-DIAGNOSTICS. 2. LED TO BE RATED FOR 20 YEAR LIFE.
XWX	WALL MOUNTED CAST ALUMINUM EXIT SIGN. FINISH: WHAITE PAINTED. ARROWS/LETTERING COLOR: GREEN. SPECIAL NOTE: ARROWS TO BE AS SHOWN ON DRAWINGS OR AS REQUIRED. THE UNIT SHALL BE SINGLE OR DOUBLE FACED AS SHOWN ON THE DRAWINGS OR AS REQUIRED. THE UNIT SHALL BE COMPLETE WITH UNIVERSAL CANOPY TO ALLOW FOR CEILING, WALL OR END MOUNTING AS REQUIRED. THE CONTRACTOR SHALL VERIFY ALL SINGLE OR DOUBLE FACE REQUIREMENTS, ARROW REQUIREMENTS AND MOUNTING REQUIREMENTS. LOCATION: GENERAL.	1' - 1"	0' - 2"	0' - 9"	0' - 0"	WL	LED		2W	2W				WHITE	UL 924 LISTED	DUAL LITE "SE" SERIES	1. LITHONIA 2. SURE-LTIES	1. PROVIDE SELF-DIAGNOSTICS. 2. LED TO BE RATED FOR 20 YEAR LIFE.

10/27/2021 7:20:57 PM

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SEAL | DATE 10/28/2021

STEPHEN B. CULBERT REGISTERED No. PE19400288 STATE OF INDIANA PROFESSIONAL ENGINEER

SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/2021

RATIO

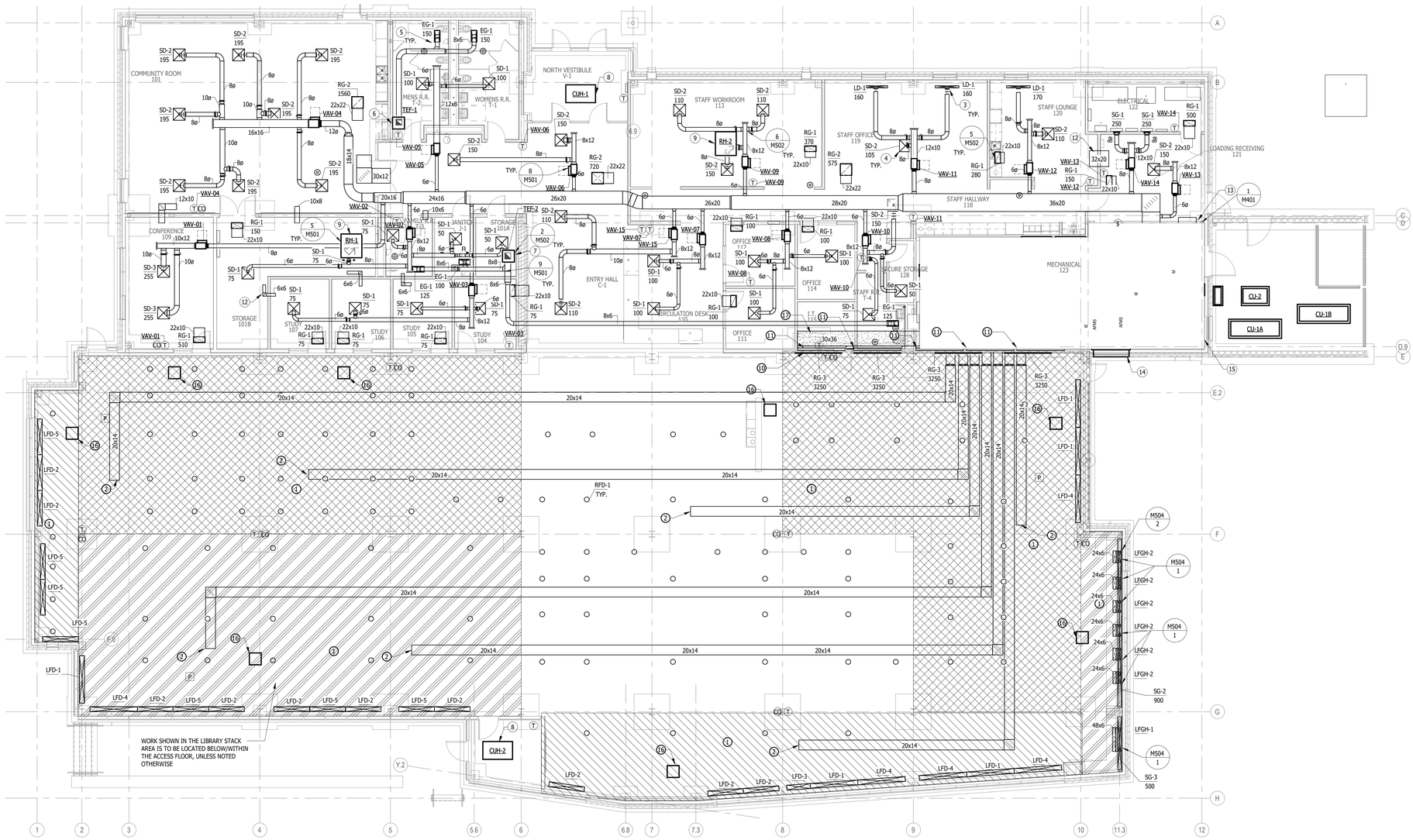
PROJECT NO. 18005.000

SHEET TITLE
LUMINAIRE SCHEDULE

SHEET NUMBER
E801

PLAN NOTES:

1. EACH HATCHED AREA REPRESENTS A SEPARATE TEMPERATURE CONTROL ZONE. PROVIDE ZONING BY CONTROLLING LINEAR FLOOR DIFFUSERS AND ROUND FLOOR DIFFUSERS WITHIN EACH ZONE FROM THE SPACE TEMPERATURE SENSOR SHOWN IN THE ZONE. REFER TO M600 SERIES CONTROL SCHEMATICS.
2. PROVIDE OPEN ENDED DUCT TERMINATION BELOW THE PLENUM.
3. LINEAR SLOT DIFFUSER, TYP.
4. SUPPLY DIFFUSER, TYP.
5. EXHAUST GRILLE, TYP.
6. 12"x10" EXHAUST UP TO TOILET EXHAUST TEF-1.
7. 12"x12" EXHAUST UP TO TOILET EXHAUST TEF-2.
8. CEILING MOUNTED FULLY RECESSED CABINET UNIT HEATER.
9. RELIEF HOOD ON THE ROOF WITH OPENING THROUGH THE ROOF. PROVIDE MOTORIZED DAMPER AT PENETRATION, ACCCESSIBLE THROUGH HOOD AT THE ROOF.
10. SIDEWALL RETURN GRILLES SHALL BE MOUNTED WITH CENTERLINE EQUAL TO CLERESTORY WINDOW CENTERLINE. TYPICAL OF 4 INSTANCES. (2)
11. 96X12 RETURN DUCT SHALL BE SEALED UP TO AND AGAINST THE WALL. PROVIDE A 14X10 OPENING INTO EACH STUD CAVITY. PROVIDE SHEET METAL LINER WITHIN THE STUD CAVITY CLOSED AT THE BOTTOM AND TOP ABOVE THE RETURN GRILLE. PRESSURE TEST EACH CAVITY TO VERIFY THE RETURN AIR DUCT PRESSURE CLASSIFICATION REQUIREMENTS ARE BEING MET. REFERENCE A-SERIES DRAWINGS FOR MORE INFORMATION ON RETURN AIR GRILLE AND PATHWAY.
12. PROVIDE TRANSFER AIR DUCT ABOVE THE CEILING TO ALLOW AIR PATH FOR PLENUM RETURN SYSTEM, TYP.
13. OPEN ENDED RETURN DUCT ABOVE CEILING.
14. 9'-0" TALL x 6'-0" WIDE O.A. LOUVER. REFER TO ARCH PLANS.
15. 9'-0" TALL x 4'-0" WIDE RELIEF LOUVER. REFER TO ARCH PLANS.
16. UNDERFLOOR CONTROL MODULE PROVIDED BY UNDERFLOOR AIR DISTRIBUTION MANUFACTURER. REFER TO SPECIFICATIONS AND CONTROL SCHEMATICS ON M600 SERIES SHEETS.
17. RETURN DUCT MAIN SHOWN HATCHED SHALL BE DOUBEL WALL WITH PERFORATED INTERIOR LINER.



1 M201 **FIRST FLOOR MECHANICAL PLAN**
1/8" = 1'-0"

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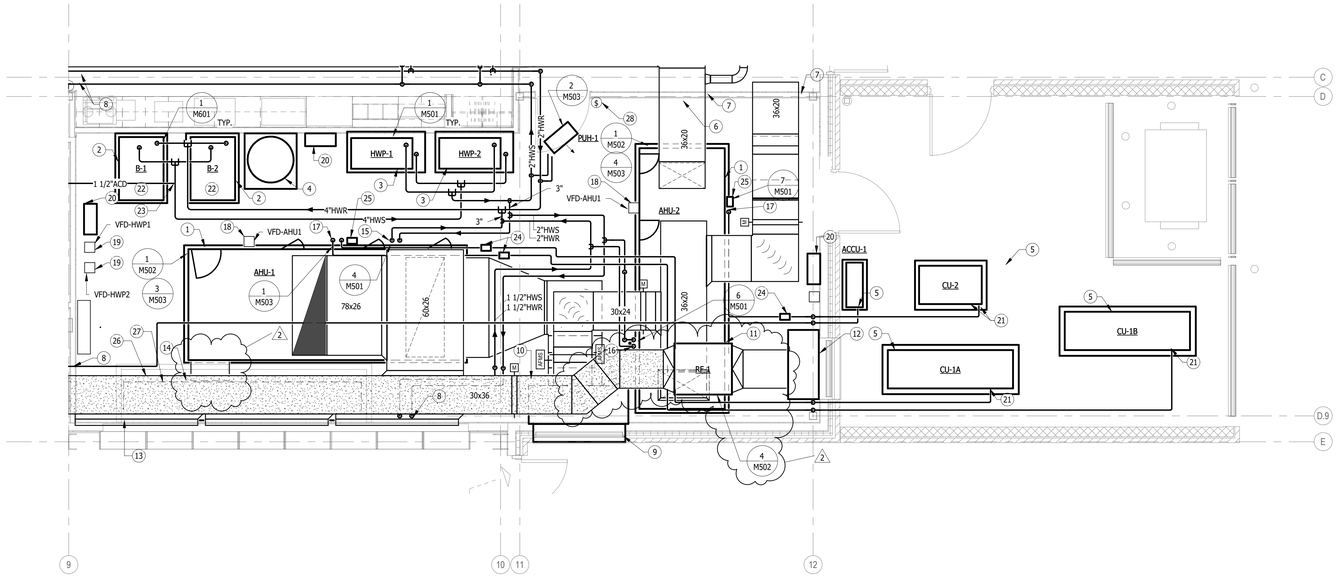
SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/2021

PROJECT NO. 18005.000

SHEET TITLE
FIRST FLOOR MECHANICAL PLAN

SHEET NUMBER
M201



1 M401 **ENLARGED MECHANICAL ROOM PLAN**

1/4" = 1'-0"

PLAN NOTES:

1. PROVIDE AIR HANDLING UNIT ON 6" CONCRETE HOUSEKEEPING PAD.
2. PROVIDE BOILER ON 4" HOUSEKEEPING PAD.
3. PROVIDE HEATING WATER PUMP ON 4" HOUSEKEEPING PAD.
4. PROVIDE HEATING WATER EXPANSION TANK ON 4" HOUSEKEEPING PAD.
5. PROVIDE AIR COOLED CONDENSING UNIT IN MECHANICAL YARD ON CONCRETE PAD. REFER TO STRUCTURAL DRAWINGS FOR CONCRETE PAD DETAILS.
6. REFER TO PLUMBING PLANS FOR FIRE PROTECTION AND DOMESTIC WATER BACKFLOW PREVENTERS AND PLUMBING WORK IN THIS AREA.
7. SEE SHEET M201 FOR DUCT CONTINUATION.
8. SEE SHEET M301 FOR PIPE CONTINUATION.
9. 72" W X 96" H LOUVER. PROVIDE 30" DEEP OA DOUBLE WALL PLENUM. PLENUM SHALL BE 2" THICK WITH INSULATION ENCAPSULATED BETWEEN WALLS. SET UNIT ON 3" WIDE X 4" TALL CONCRETE CURB. TOP OF PLENUM SHALL BE AT 7'-0" AFF. BLANK OFF TOP TWO FEET OF LOUVER WITH INSULATED PANEL.
10. CONNECT 30X24 OA DUCT FROM AHU-2 AND 42X26 OA DUCT FROM AHU-1 TO OA PLENUM.
11. PROVIDE RELIEF FAN SUSPENDED FROM THE STRUCTURE ABOVE.
12. PROVIDE DOUBLE WALL SHEET METAL PLENUM WITH 2" INSULATION ENCAPSULATED BETWEEN WALLS. SET UNIT ON 3" WIDE X 4" TALL CONCRETE CURB. FLOOR OF THE PLENUM SHALL BE THE MECHANICAL ROOM FLOOR. THE PLENUM SHALL BE 2'-0" WIDE AND 13'-0" TALL.
13. PROVIDE DOUBLE WALL SHEET METAL ACOUSTICAL SUPPLY AIR PLENUM WITH 2" INSULATION ENCAPSULATED BETWEEN WALLS AND PERFORATED INNER WALL. SET THE PLENUM WITHIN THE FLOOR RECESS TO ACCEPT THE DUCTS SHOWN ON M201 BELOW THE ACCESS FLOOR. PLENUM SHALL BE 2'-6" WIDE AND 11"-2" TALL.
14. CONNECT SUPPLY AIR DUCTWORK TO SIDE OF DOUBLE WALL SHEET METAL PLENUM WITH DOUBLE WALL DUCTWORK.
15. 2" HWS AND 2" HWR TO AIR HANDLING UNIT HEATING COIL
16. 1-1/4" HWS AND 1-1/4" HWR TO AIR HANDLING UNIT HEATING COIL.
17. REFRIGERANT PIPING TO AIR HANDLING UNIT COOLING COIL. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
18. PROVIDE VARIABLE FREQUENCY DRIVE. INSTALL ATTACHED TO AIR HANDLING UNIT.
19. PROVIDE WALL MOUNTED VARIABLE FREQUENCY DRIVE FOR HEATING WATER PUMP.
20. PROVIDE TEMPERATURE CONTROL PANEL IN THIS LOCATION.
21. EACH LINE SHOWN REPRESENTS ONE SET OF REFRIGERANT LIQUID AND REFIRGERANT SUCTION LINES FROM THE CONDENSING UNIT TO THE INDOOR COOLING COIL. PROVIDE PIPE SIZING AS RECOMMENDED BY THE UNIT MANUFACTURER.
22. BOILER FLUE AND COMBUSTION AIR INTAKE UP THROUGH THE ROOF.
23. PIPE ACD TO OVER FLOOR DRAIN.
24. EEV MODULE FURNISHED AS PART OF THE AHU CONVERSION KIT BY CONDENSING UNIT MANUFACTURER. REFER TO SPECIFICATIONS.
25. COMMUNICATION MODULE FURNISHED AS PART OF THE AHU CONVERSION KIT BY CONDENSING UNIT MANUFACTURER. REFER TO SPECIFICATIONS.
26. HATCHED RETURN DUCTWORK SHALL BE DOUBLE WALL WITH PERFORATED INNER LINER.
27. CLOSE THE ANNULAR SPACE AROUND THE SHEET METAL ACOUSTICAL PLENUM AND THE CONCRETE CURB WITH A STEEL ANGLE AND SEAL AIR TIGHT. SEAL THE ACOUSTICAL PLENUM TO THE WALL BELOW THE RAISED FLOOR. FINAL INSTALLATION SHALL PREVENT SUPPLY AIR FROM BACK FEEDING THROUGH THE FLOOR RECESS INTO THE MECHANICAL ROOM. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL INFORMATION.
28. LOCATE CSD-1 BOILER EMERGENCY SHUTOFF SWITCH ON WALL ADJACENT TO DOOR.

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SHEET TITLE
ENLARGED MECHANICAL ROOM PLAN

SHEET NUMBER
M401

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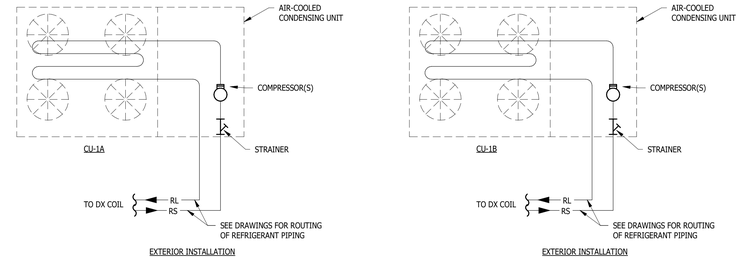
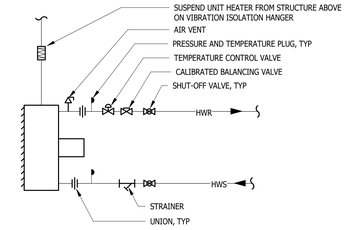


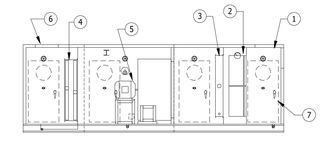
1 MULTI-CONDENSING UNIT REFRIGERANT PIPING DIAGRAM
NO SCALE



2 HOT WATER UNIT HEATER/CABINET HEATER PIPING
NO SCALE

NOTES:

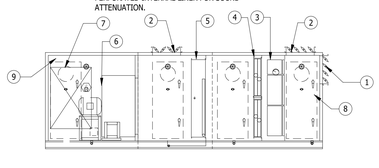
1. MIXED AIR INLET
2. FILTER
3. HOT WATER HEATING COIL
4. DX COOLING COIL
5. SUPPLY FAN
6. SUPPLY AIR DISCHARGE
7. ACCESS DOOR, TYP.



4 AHU-2 DETAIL
NO SCALE

NOTES:

1. OUTSIDE AIR DAMPER
2. RETURN AIR DAMPER
3. FILTER
4. HOT WATER HEATING COIL
5. DX COOLING COIL
6. SUPPLY FAN
7. SUPPLY AIR DISCHARGE, SIDE OF THE UNIT. 32" W X 48" HIGH
8. ACCESS DOOR, TYP.
9. SUPPLY FAN DISCHARGE PLENUM SHALL HAVE PERFORATED INTERNAL LINER FOR SOUND ATTENUATION.



3 AHU-1 DETAIL
NO SCALE

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SHEET ISSUE

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SHEET TITLE
MECHANICAL DETAILS

SHEET NUMBER
M503

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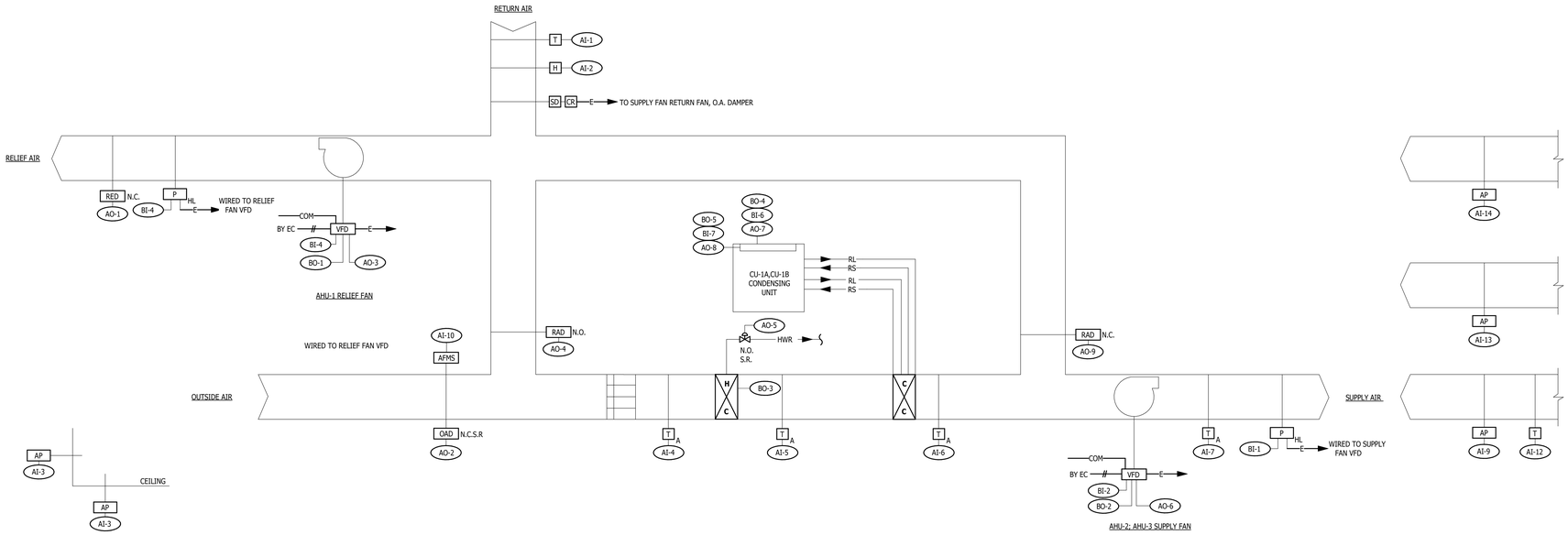

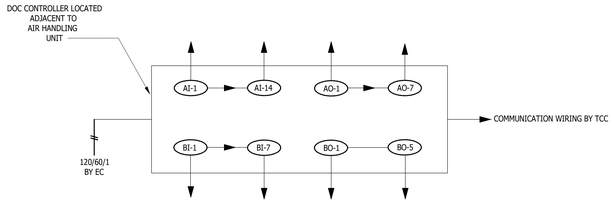

SEQUENCE OF OPERATION

A. SUPPLY FAN CONTROL
1. USE THE APPROPRIATE OCCUPIED/UNOCCUPIED SCHEDULE AS DENOTED IN THE VENTILATION SEQUENCE.
2. MORNING WARM-UP CYCLE: THE TEMPERATURE CONTROL SYSTEM SHALL UTILIZE AN OPTIMUM START PROGRAM THAT CALCULATES START TIME BASED UPON OUTSIDE AIR TEMPERATURE, INDOOR TEMPERATURE AND OCCUPIED SCHEDULE TIMES. THE PROGRAM SHALL BE SELF-TUNING AND SHALL AUTOMATICALLY CALCULATE THE NECESSARY START TIME TO BRING THE BUILDING UP TO OCCUPIED TEMPERATURES AS THE OCCUPIED CYCLE BEGINS. THE START TIME SHALL BE NO EARLIER THAN 3 HOURS PRIOR TO OCCUPIED TIME AND NO LATER THAN THE START OF OCCUPIED CYCLE. WHEN IN THIS CYCLE, THE DAMPERS SHALL REMAIN IN THE UNOCCUPIED STATE.
3. MORNING COOL-DOWN CYCLE: THE TEMPERATURE CONTROL SYSTEM SHALL UTILIZE AN OPTIMUM START PROGRAM THAT CALCULATES START TIME BASED UPON OUTSIDE AIR TEMPERATURE, INDOOR TEMPERATURE AND OCCUPIED SCHEDULE TIMES. THE PROGRAM SHALL BE SELF-TUNING AND SHALL AUTOMATICALLY CALCULATE THE NECESSARY START TIME TO BRING THE BUILDING DOWN TO OCCUPIED TEMPERATURES AS THE OCCUPIED CYCLE BEGINS. THE START TIME SHALL BE NO EARLIER THAN 1 HOUR PRIOR TO OCCUPIED TIME AND NO LATER THAN 15 MINUTES PRIOR TO THE START OF OCCUPIED CYCLE. WHEN IN THIS CYCLE, THE DAMPERS SHALL REMAIN IN THE UNOCCUPIED STATE.
4. OCCUPIED CYCLE: THE SUPPLY FAN SHALL RUN CONTINUOUSLY. THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE FAN SPEED AS REQUIRED TO MAINTAIN THE MOST DEMANDING SYSTEM STATIC PRESSURE SETPOINT SENSOR. DIFFERENTIAL STATIC PRESSURE SENSORS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. SUPPLY FAN SHALL BE RAMPED UP TO SPEED OVER A PERIOD OF 1 MINUTE.
5. UNOCCUPIED CYCLE: WHENEVER ANY ONE HEATING ZONE OR TWO COOLING ZONES IS 5 DEG. F. (ADJ.) OR MORE ABOVE OR BELOW UNOCCUPIED SETPOINT, FAN SHALL CYCLE ON UNTIL ZONES ARE AT UNOCCUPIED SETPOINT.
6. FAN FAILURE (AS DETERMINED THROUGH CURRENT SENSOR) SHALL CAUSE IMMEDIATE ALARM AT THE TEMPERATURE CONTROL WORKSTATION.
7. HIGH STATIC LIMIT SWITCH SHALL STOP SUPPLY FAN IF HIGH STATIC PRESSURE ABOVE 5" STATIC (ADJ.) AT UNIT DISCHARGE IS DETECTED. PROVIDE A MANUAL MOMENTARY RESET BUTTON THAT MUST BE UTILIZED TO RE-ENERGIZE THE SUPPLY FAN.
8. IF DISCHARGE STATIC PRESSURE SENSOR SIGNAL IS LOST, THE FAN SPEED SHALL CONTINUE TO RUN AT THE LAST SIGNALED SPEED.

B. RELIEF FAN CONTROL
1. USE THE APPROPRIATE OCCUPIED/UNOCCUPIED SCHEDULE AS DENOTED IN THE VENTILATION SEQUENCE.
2. OCCUPIED CYCLE: THE RELIEF FAN SHALL BE OFF. WHEN SPACE STATIC PRESSURE WITH RESPECT TO THE OUTDOORS EXCEEDS .03" POSITIVE, THE RELIEF FAN SHALL BE ON AND THE FAN SPEED SHALL MODULATE TO MAINTAIN A .03" (ADJ.) SETPOINT.
3. UNOCCUPIED CYCLE: RELIEF FAN SHALL BE OFF.
4. PROVIDE SOFTWARE INTERLOCK TO PROHIBIT RELIEF FAN OPERATION IF SUPPLY FAN IS NOT RUNNING.
5. HIGH STATIC LIMIT SWITCH SHALL STOP SUPPLY FAN IF HIGH STATIC PRESSURE ABOVE 5" STATIC (ADJ.) AT UNIT DISCHARGE IS DETECTED. PROVIDE A MANUAL MOMENTARY RESET BUTTON THAT MUST BE UTILIZED TO RE-ENERGIZE THE SUPPLY FAN.
6. FAN FAILURE SHALL CAUSE IMMEDIATE ALARM AT THE TEMPERATURE CONTROL WORKSTATION.

C. SMOKE CONTROL: SMOKE DETECTOR(S) PROVIDED AND INSTALLED BY DIVISION 26 CONTRACTOR WILL SIGNAL ALARM, AND CLOSE A RELAY LOCATED NEAR THE SUPPLY FAN STARTER. THE TEMPERATURE CONTROL SYSTEM SHALL IMMEDIATELY STOP THE SUPPLY AND RELIEF FANS, AND CLOSE THE OUTSIDE AIR DAMPER WHEN THE RELAY IS CLOSED VIA A HARDWIRED INTERLOCK. THE DIVISION 26 CONTRACTOR WILL PROVIDE AND INSTALL THE RELAY SWITCH AND ALL WIRING TO SMOKE DETECTORS AND FIRE ALARM SYSTEM. THE TEMPERATURE CONTROL CONTRACTOR IS RESPONSIBLE FOR ALL TEMPERATURE CONTROL WIRING. COORDINATE WITH DIVISION 26 CONTRACTOR.

D. DAMPER CONTROL
1. PROVIDE AN OUTSIDE AIRFLOW MEASURING STATION IN THE OUTSIDE AIR DUCT.
2. DURING OCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE OUTSIDE AIR AND RETURN AIR DAMPER (AO-4) TO MAINTAIN THE MINIMUM OUTSIDE AIRFLOW QUANTITY SCHEDULED. THE QUANTITY OF OUTSIDE AIR REQUIRED SHALL BE CALCULATED USING THE ASHRAE 62.1 MULTIPLE SPACE EQUATION. SEE THE ACCOMANYING DESCRIPTION.
3. ECONOMIZER COOLING: ECONOMIZER COOLING IS ENABLED/DISABLED BASED ON THE RETURN AIR AND OUTSIDE AIR ENTHALPY DIFFERENTIAL SWITCHOVER SETPOINT WITH A 1.5BTU/LB DEAD BAND. WHEN THE OUTSIDE AIR ENTHALPY IS NO MORE THAN 1.0 BTU/LB BELOW THE RETURN AIR ENTHALPY, ECONOMIZER COOLING IS DISABLED. WHEN THE OUTSIDE AIR ENTHALPY IS BELOW RETURN AIR ENTHALPY BY AT LEAST 2.5 BTU/LB, ECONOMIZER COOLING IS ENABLED. WHEN ECONOMIZER COOLING IS ENABLED, OUTDOOR AIR, AND RETURN AIR DAMPER (AO-4) MODULATE TOGETHER TO MAINTAIN A MIXED AIR SETPOINT OF 60ºF. THE DAMPERS SHALL NOT BE ALLOWED TO MODULATE BELOW THE SCHEDULED OUTSIDE AIRFLOW RATE.
   a. ENABLING OF ECONOMIZER CONTROL SHALL NOT REDUCE THE QUANTITY OF OUTDOOR AIR REQUIRED FOR VENTILATION AS SCHEDULED.
4. OCCUPIED PERIOD RELIEF DAMPER CONTROL: WHEN THE SPACE STATIC PRESSURE IS .03" (ADJ.) OR HIGHER, THE RELIEF AIR DAMPER SHALL BE OPEN.
5. DURING UNOCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE TEMPERATURE CONTROL SYSTEM OPENS THE RETURN AIR DAMPER (AO-4), AND CLOSES THE OUTSIDE AIR AND RELIEF AIR DAMPERS.

E. HYDRONIC HEATING COIL
1. DURING OCCUPIED PERIODS.
   a. WHEN THE SUPPLY FAN IS ON, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE HOT WATER HEATING VALVE TO MAINTAIN A 55 DEG. F. (ADJ.) DISCHARGE AIR TEMPERATURE (AI-5), AS MEASURED BY A DUCT MOUNTED AVERAGING THERMOSTAT. UPON A LOSS OF CONTROL POWER, HOT WATER CONTROL VALVE SHALL RETURN TO AN OPEN POSITION.
2. DURING UN-OCCUPIED PERIODS
   a. WHEN THE SUPPLY FAN IS ON, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE HOT WATER CONTROL VALVE TO MAINTAIN 65 DEG. F. (ADJ.) DISCHARGE AIR TEMPERATURE (AI-5).
   b. WHEN THE SUPPLY FAN IS OFF, AND THE MIXED AIR TEMPERATURE IS AT OR BELOW 40 DEG. F. (ADJ.) THE TEMPERATURE CONTROL SYSTEM SHALL OPEN HOT WATER CONTROL VALVES 50% OPEN.
   c. WHEN THE SUPPLY FAN IS OFF, AND THE OUTSIDE AIR TEMPERATURE IS ABOVE 40 DEG. F. (ADJ.) THE HOT WATER CONTROL VALVES SHALL BE CLOSED.
3. FREEZE PROTECTION PUMP
   a. WHEN THE OUTSIDE AIR TEMPERATURE IS AT OR BELOW 40 DEG. F (ADJ.), THE PUMP(S) SHALL BE ON. ABOVE 40 DEG. F (ADJ). THE PUMP(S) SHALL BE OFF.

F. DX REFRIGERANT COIL:
1. DURING OCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE BAS CONTROLLER SHALL ENABLE THE CONDENSING UNITS TO RUN IN A LEAD-LAG MANNER AND SHALL SEND A MODULATING SIGNAL (0-10V) TO EACH OF THE CONDENSING UNITS.
   a. EACH CONDENSING UNIT CONTROLLER SHALL CONTROL ITS RESPECTIVE REFRIGERANT SYSTEM (ONE VARIABLE SPEED COMPRESSOR AND ONE CONSTANT SPEED COMPRESSOR) TO MAINTAIN 55 DEGREE COOLING COIL DISCHARGE AIR TEMPERATURE (ADJUSTABLE).
   b. IF RETURN AIR HUMIDITY RISES ABOVE 50% RH (ADJUSTABLE) THEN THE COOLING COIL DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET DOWNWARD TO 53 DEGREES (ADJUSTABLE).
   c. UPON FAILURE OF ONE CONDENSING UNIT TO START, THE OTHER CONDENSING UNIT SHALL BECOME THE LEAD UNIT. AFTER 150 HOURS (ADJUSTABLE) OF OPERATION OF THE LEAD CONDENSING UNIT, BAS CONTROLLER SHALL ALTERNATE CONDENSING UNIT OPERATION SO THE LAG UNIT SHALL BECOME THE LEAD UNIT.
   d. IF THE PREHEAT COIL VALVE IS BEING COMMANDED OPEN, THE CONDENSING UNITS SHALL BE OFF.
2. DURING UNOCCUPIED PERIODS:
   a. WHEN THE SUPPLY FAN IS ON, AND ANY ZONE SERVED BY THE UNIT IS CALLING FOR COOLING, ENABLE NORMAL CONTROL.
   b. WHEN THE SUPPLY FAN IS OFF, THE CONDENSING UNITS SHALL BE OFF.

G. UNIT DISCHARGE TEMPERATURE CONTROL
1. DURING OCCUPIED PERIODS, MONITOR THE RETURN AIR TEMPERATURE. IF THE RETURN AIR IS WARMER THAN 63 DEG. F, MODULATE THE RETURN AIR DAMPER (AO-9) OPEN AS NECESSARY TO MAINTAIN A 63 DEG. F DISCHARGE AIR TEMPERATURE (AI-7). IF RETURN AIR TEMPERATURE IS LOWER THAN 63 DEG. F, RETURN AIR DAMPER (AO-9) SHALL BE CLOSED.
   a. IF RETURN AIR TEMPERATURE IS LOWER THAN 63 DEG. F (ADJ.), RESET THE HEATING COIL DISCHARGE AIR TEMPERATURE SETPOINT (AI-5) UP TO MAINTIAN A 63 DEG. F (ADJ) DISCHARGE TEMPERATURE (AI-7).
   b. IF OUTSIDE AIR IS LESS THAN 60 DEG. F, AND NO ZONES ARE CALLING FOR COOLING, INCREASE THE SUPPLY TEMPERATURE UP AS REQUIRED TO MEET THE INTERIOR ZONES HEATING SETPOINTS.
2. DURING UNOCCUPIED PERIODS, WHEN THE FAN IS RUNNING, MAINTAIN NORMAL CONTROL. WHEN THE FAN IS OFF, RETURN AIR DAMPER (AO-9) SHALL BE CLOSED.

H. VFD COMMUNICATION: PROVIDE A BACNET MS/TP INTERFACE FROM THE BMS TO ALL VFD'S.

DYNAMIC MINIMUM OUTSIDE AIR RESET:

1. MINIMUM OUTSIDE AIR SHALL BE DYNAMIC RESET FROM ITS MAXIMUM VALUE BY THE EMS BASED ON ASHRAE STANDARD 62.1 SYSTEM VENTILATION EFFICIENCY (EV).
2. DEFINITIONS:
   A. ATU: AIR TERMINAL UNIT
   B. EV: SYSTEM VENTILATION EFFICIENCY.
   C. EVZ: ZONE VENTILATION EFFICIENCY.
   D. VDZ: ZONE SUPPLY AIRFLOW.
   E. VOT: OUTSIDE AIR INTAKE FLOW.
   F. VOU: UNCORRECTED OUTSIDE AIRFLOW INTAKE FLOW.
   G. VOZ: ZONE OUTSIDE AIRFLOW.
   H. VPS: SYSTEM PRIMARY AIRFLOW.
   I. XS: AVERAGE OUTSIDE AIR FRACTION.
   J. ZD: ZONE DISCHARGE OUTSIDE AIR FRACTION.
3. THE EMS SHALL MONITOR VDZ SUPPLIED BY EACH ATU.
4. THE EMS SHALL CALCULATE ZD = VOZ/VDZ FOR EACH ATU. VOZ IS SCHEDULED ON THE DRAWINGS.
5. THE EMS SHALL CALCULATE VPS - SUM VDZ (SUM OF ALL ATU SUPPLY FLOW RATES).
6. THE EMS SHALL CALCULATE XS = VOU/VPS.
7. THE EMS SHALL CALCUALTE VOU=SUM OF ALL VOZ VALUES SCHEDULED FOR ATU'S SERVED BY GIVEN UNIT. IF BOX IS VACANT AS DETERMINED BY A CO2 SENSOR BELOW 500 PPM, VOZ FOR ATU SHALL BE ZERO. OCCUPANCY SENSORS BY DIVISION 26.
8. THE EMS SHALL CALCULATE EVZ - 1 + XS-ZD FOR EACH ZONE.
9. THE EMS SHALL CALCULATE EV = MINIMUM EVZ.
10. THE EMS SHALL CALCULATE VOT = VO/EV. THIS VALUE SHALL BE USED TO CONTROL THE OUTSIDE AIR DAMPER MINIMUM AIRFLOW.
11. THE OUTSIDE AIR FOR EACH AIR HANDLING UNIT SHALL NOT BE ALLOWED TO EXCEED THE SCHEDULED OUTSIDE AIR QUANTITY REGARDLESS OF THE CALCULATION RESULTS, UNLESS THE UNIT IS IN ECONOMIZER MODE.
12. THE EMS SHALL CALCUALTE/MONITOR/CONTROL THE FOLLOWING FOR PROPER SYSTEM OPERATION:
   A. MINIMUM DESIGN OUTSIDE AIRFLOW
   B. SUPPLY CFM BEING DELIVERED BY EACH ATU.
   C. OUTSIDE AIR FRACTION FOR EACH ATU.
   D. TOTAL SUPPLY CFM BEING DELIVERED BY THE SYSTEM.
   E. UNCORRECTED OUTSIDE AIR CFM.
   F. AVERAGE OUTSIDE AIR FRACTION.
   G. ZONE VENTILATION EFFICIENCY.
   H. SYSTEM VENTILATION EFFICIENCY.
   I. MINIMUM OUTSIDE AIR CFM SETPOINT.
   J. MAXIMUM OUTSIDE AIR CFM.
   K. ATU VACANT/NOT VACANT STATUS (MONITORED EVERY 15 MINUTES).
   L. ZONE OUTSIDE ARIFLOW (FOR EACH ZONE).

POINTS LIST

BINARY INPUT
- BI-1 DISCHARGE HIGH LIMIT STATIC
- BI-2 SUPPLY FAN STATUS
- BI-3 RELIEF FAN STATUS
- BI-4 RELIEF FAN HIGH STATIC
- BI-5 DUCT DETECTOR RELAY
- BI-6 CONDENSING UNIT FAILURE
- BI-7 CONDENSING UNIT FAILURE

BINARY OUTPUT
- BO-1 REIIEF FAN START/STOP
- BO-2 SUPPLY FAN START/STOP
- BO-3 COIL PUMP START/STOP
- BO-4 REFRIGERATION ENABLED
- BO-5 REFRIGERATION ENABLED

ANALOG INPUT
- AI-1 RETURN AIR TEMPERATURE
- AI-2 RETURN AIR HUMIDITY
- AI-3 SPACE DIFFERENTIAL PRESSURE, REF. OA PRESSURE
- AI-4 MIXED AIR TEMPERATURE
- AI-5 HEATING COIL DISCHARGE AIR TEMPERATURE
- AI-6 COOLING COIL DISCHARGE AIR TEMPERATURE
- AI-7 MIXED DISCHARGE TEMPERATURE
- AI-8 OUTSIDE AIR TEMPERATURE (GLOBAL POINT)
- AI-9 BELOW FLOOR SUPPLY PLENUM STATIC PRESSURE-SUPPLY
- AI-10 OUTSIDE AIR FLOW QUANTITY
- AI-11 OUTSIDE AIR HUMIDITY (GLOBAL POINT)
- AI-12 REMOTE SUPPLY PLENUM TEMPERATURE
- AI-13 BELOW FLOOR SUPPLY PLENUM STATIC PRESSURE-SUPPLY
- AI-14 BELOW FLOOR SUPPLY PLENUM STATIC PRESSURE-SUPPLY

ANALOG OUTPUT
- AO-1 RELIEF AIR DAMPER
- AO-2 OUTSIDE AIR DAMPER
- AO-3 RELIEF AIR FAN VFD
- AO-4 RETURN AIR DAMPER - PRIMARY
- AO-5 HWR CONTROL VALVE
- AO-6 SUPPLY FAN VFD
- AO-7 REFRIGERANT CIRCUIT 1 COMPRESSOR SPEED SIGNAL
- AO-8 REFRIGERANT CIRCUIT 2 COMPRESSOR SPEED SIGNAL
- AO-9 RETURN AIR DAMPER - TEMPERATURE MIXING

NOTE: PROVIDE CAPACITY FOR 5 ADDITIONAL POINTS PER I/O CATEGORY.

1 AHU-1 CONTROL SCHEMATIC
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SEAL | DATE 10/28/2021

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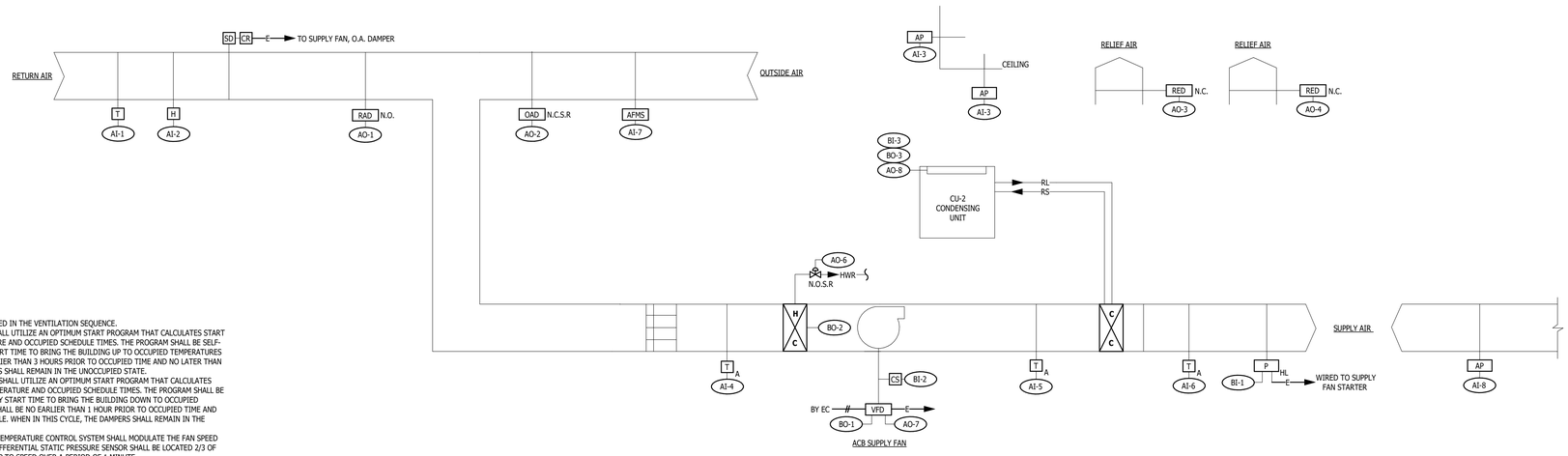
SHEET ISSUE

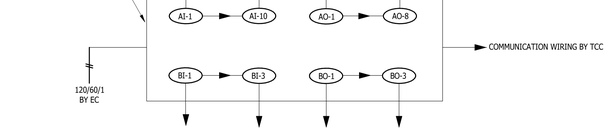
1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/2021

PROJECT NO. 18005.000

SHEET TITLE
HVAC INSTRUMENTATION AND CONTROL SCHEMATICS

SHEET NUMBER
M602





SEQUENCE OF OPERATION

A. SUPPLY FAN CONTROL
1. USE THE APPROPRIATE OCCUPIED/UNOCCUPIED SCHEDULE AS DENOTED IN THE VENTILATION SEQUENCE.
2. MORNING WARM-UP CYCLE: THE TEMPERATURE CONTROL SYSTEM SHALL UTILIZE AN OPTIMUM START PROGRAM THAT CALCULATES START TIME BASED UPON OUTSIDE AIR TEMPERATURE, INDOOR TEMPERATURE AND OCCUPIED SCHEDULE TIMES. THE PROGRAM SHALL BE SELF-TUNING AND SHALL AUTOMATICALLY CALCULATE THE NECESSARY START TIME TO BRING THE BUILDING UP TO OCCUPIED TEMPERATURES AS THE OCCUPIED CYCLE BEGINS. THE START TIME SHALL BE NO EARLIER THAN 3 HOURS PRIOR TO OCCUPIED TIME AND NO LATER THAN THE START OF OCCUPIED CYCLE. WHEN IN THIS CYCLE, THE DAMPERS SHALL REMAIN IN THE UNOCCUPIED STATE.
3. MORNING COOL-DOWN CYCLE: THE TEMPERATURE CONTROL SYSTEM SHALL UTILIZE AN OPTIMUM START PROGRAM THAT CALCULATES START TIME BASED UPON OUTSIDE AIR TEMPERATURE, INDOOR TEMPERATURE AND OCCUPIED SCHEDULE TIMES. THE PROGRAM SHALL BE SELF-TUNING AND SHALL AUTOMATICALLY CALCULATE THE NECESSARY START TIME TO BRING THE BUILDING DOWN TO OCCUPIED TEMPERATURES AS THE OCCUPIED CYCLE BEGINS. THE START TIME SHALL BE NO EARLIER THAN 1 HOUR PRIOR TO OCCUPIED TIME AND NO LATER THAN 15 MINUTES PRIOR TO THE START OF OCCUPIED CYCLE. WHEN IN THIS CYCLE, THE DAMPERS SHALL REMAIN IN THE UNOCCUPIED STATE.
4. OCCUPIED CYCLE: THE SUPPLY FAN SHALL RUN CONTINUOUSLY. THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE FAN SPEED AS REQUIRED TO MAINTAIN SYSTEM STATIC PRESSURE SETPOINT. DIFFERENTIAL STATIC PRESSURE SENSOR SHALL BE LOCATED 2/3 OF THE WAY DOWN THE SUPPLY DUCT. SUPPLY FAN SHALL BE RAMPED UP TO SPEED OVER A PERIOD OF 1 MINUTE.
   a. THE BMS SHALL RESET STATIC PRESSURE SETPOINT USING TRIM AND RESPOND LOGIC WITHIN THE RANGE OF 0.15" TO 2.0" (ADJ.). THE UPPER LIMIT OF 2.0" SHALL BE VERIFIED BY THE BALANCING CONTRACTOR. WHEN THE FAN IS STARTED, THE SETPOINT SHALL BE .5" WC. WHILE THE FAN(S) IS RUNNING, AND THERE ARE TWO OR FEWER ZONE PRESSURE REQUESTS, TRIM THE SETPOINT BY 0.04" WG. IF THERE ARE MORE THAN TWO ZONE PRESSURE REQUESTS, RESPOND BY INCREASING THE SETPOINT BY 0.06" WG EVERY FIVE MINUTES. A ZONE PRESSURE REQUEST SHALL BE GENERATED WHEN A GIVEN AIR TERMINAL UNIT DAMPER IS GREATER THAN 95% OPEN UNTIL IT DROPS TO 80% OPEN.
5. UNOCCUPIED CYCLE: WHENEVER ANY ONE HEATING ZONE OR TWO COOLING ZONES IS 5 DEG. F. (ADJ.) OR MORE ABOVE OR BELOW UNOCCUPIED SETPOINT, FAN SHALL CYCLE ON UNTIL ZONES ARE AT UNOCCUPIED SETPOINT.
6. FAN FAILURE (AS DETERMINED THROUGH CURRENT SENSOR) SHALL CAUSE IMMEDIATE ALARM AT THE TEMPERATURE CONTROL WORKSTATION.
7. HIGH STATIC LIMIT SWITCH SHALL STOP SUPPLY FAN IF HIGH STATIC PRESSURE ABOVE 5" STATIC (ADJ.) AT UNIT DISCHARGE IS DETECTED. PROVIDE A MANUAL MOMENTARY RESET BUTTON THAT MUST BE UTILIZED TO RE-ENERGIZE THE SUPPLY FAN.
8. IF DISCHARGE STATIC PRESSURE SENSOR SIGNAL IS LOST, THE FAN SPEED SHALL CONTINUE TO RUN AT THE LAST SIGNALED SPEED.

B. SMOKE CONTROL: SMOKE DETECTOR(S) PROVIDED AND INSTALLED BY DIVISION 26 CONTRACTOR WILL SIGNAL ALARM, AND CLOSE A RELAY LOCATED NEAR THE SUPPLY FAN STARTER. THE TEMPERATURE CONTROL SYSTEM SHALL IMMEDIATELY STOP THE SUPPLY FAN, AND CLOSE THE OUTSIDE AIR DAMPER WHEN THE RELAY IS CLOSED VIA A HARDWIRED INTERLOCK. THE DIVISION 26 CONTRACTOR WILL PROVIDE AND INSTALL THE RELAY SWITCH AND ALL WIRING TO SMOKE DETECTORS AND FIRE ALARM SYSTEM. THE TEMPERATURE CONTROL CONTRACTOR IS RESPONSIBLE FOR ALL TEMPERATURE CONTROL WIRING. COORDINATE WITH DIVISION 26 CONTRACTOR.

C. DAMPER CONTROL
1. PROVIDE AN OUTSIDE AIRFLOW MEASURING STATION TO MEASURE THE OUTSIDE AIRFLOW QUANTITY
2. DURING OCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE OUTSIDE AIR AND RETURN AIR DAMPERS TO MAINTAIN THE MINIMUM OUTSIDE AIRFLOW QUANTITY SCHEDULED. THE QUANTITY OF OUTSIDE AIR REQUIRED SHALL BE CALCULATED USING THE ASHRAE 62.1 MULTIPLE SPACE EQUATION. SEE THE ACCOMANYING DESCRIPTION.
3. ECONOMIZER COOLING: ECONOMIZER COOLING IS ENABLED/DISABLED BASED ON THE RETURN AIR AND OUTSIDE AIR ENTHALPY DIFFERENTIAL SWITCHOVER SETPOINT WITH A 1.5BTU/LB DEAD BAND. WHEN THE OUTSIDE AIR ENTHALPY IS NO MORE THAN 1.0 BTU/LB BELOW THE RETURN AIR ENTHALPY, ECONOMIZER COOLING IS DISABLED. WHEN THE OUTSIDE AIR ENTHALPY IS BELOW RETURN AIR ENTHALPY BY AT LEAST 2.5 BTU/LB, ECONOMIZER COOLING IS ENABLED. WHEN ECONOMIZER COOLING IS ENABLED, OUTDOOR AIR, AND RETURN AIR, DAMPERS MODULATE TOGETHER TO MAINTAIN A MIXED AIR SETPOINT OF 53°F. THE DAMPERS SHALL NOT BE ALLOWED TO MODULATE BELOW THE MINIMUM OUTSIDE AIRFLOW RATE SETPOINT.
   a. ENABLING OF ECONOMIZER CONTROL SHALL NOT REDUCE THE QUANTITY OF OUTDOOR AIR REQUIRED FOR VENTILATION AS SCHEDULED.
4. OCCUPIED PERIOD RELIEF DAMPER CONTROL: THE RELIEF DAMPERS SHALL MODULATE OPEN TOGETHER AS THE SPACE PRESSURE WITH RESPECT TO THE OUTDOORS INCREASES. SPACE PRESSURE SETPOINT SHALL BE .03" POSITIVE.
5. DURING UNOCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE TEMPERATURE CONTROL SYSTEM OPENS THE RETURN AIR DAMPER, AND CLOSES THE OUTSIDE AIR AND RELIEF AIR DAMPERS.

D. HYDRONIC HEATING COIL
1. DURING OCCUPIED PERIODS.
   a. WHEN THE SUPPLY FAN IS ON, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE HOT WATER HEATING VALVE TO MAINTAIN 55 DEG. F. (ADJ.) DISCHARGE AIR TEMPERATURE, AS MEASURED BY A DUCT MOUNTED AVERAGING THERMOSTAT. UPON A LOSS OF CONTROL POWER, HOT WATER CONTROL VALVE SHALL RETURN TO AN OPEN POSITION.
2. DURING UN-OCCUPIED PERIODS
   a. WHEN THE SUPPLY FAN IS ON, AND NO ZONES ARE CALLING FOR COOLING, THE TEMPERATURE CONTROL SYSTEM SHALL MODULATE THE HOT WATER CONTROL VALVE TO MAINTAIN 65 DEG. F. (ADJ.) DISCHARGE AIR TEMPERATURE.
   b. WHEN THE SUPPLY FAN IS OFF, AND THE MIXED AIR TEMPERATURE IS AT OR BELOW 40 DEG. F. (ADJ.) THE TEMPERATURE CONTROL SYSTEM SHALL OPEN HOT WATER CONTROL VALVES 50% OPEN.
   c. WHEN THE SUPPLY FAN IS OFF, AND THE OUTSIDE AIR TEMPERATURE IS ABOVE 40 DEG. F. (ADJ.) THE HOT WATER CONTROL VALVES SHALL BE CLOSED.
3. FREEZE PROTECTION PUMP
   a. WHEN THE OUTSIDE AIR TEMPERATURE IS AT OR BELOW 40 DEG. F (ADJ.), THE PUMP(S) SHALL BE ON. ABOVE 40 DEG. F (ADJ.) THE PUMP(S) SHALL BE OFF.

2 E. DX REFRIGERANT COIL:
1. DURING OCCUPIED PERIODS, WHEN THE FAN IS RUNNING, THE BAS CONTROLLER SHALL ENABLE THE CONDENSING UNIT TO RUN AND SHALL SEND A MODULATING SIGNAL (0-10V) TO THE CONDENSING UNIT.
   a. THE CONDENSING UNIT CONTROLLER SHALL CONTROL ITS REFRIGERANT SYSTEM (ONE VARIABLE SPEED COMPRESSOR AND ONE CONSTANT SPEED COMPRESSOR) TO MAINTAIN 55 DEGREE COOLING COIL DISCHARGE AIR TEMPERATURE (ADJUSTABLE).
   b. IF RETURN AIR HUMIDITY RISES ABOVE 50% RH (ADJUSTABLE) THEN THE COOLING COIL DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET DOWNWARD TO 53 DEGREES (ADJUSTABLE).
   c. IF THE PREHEAT COIL VALVE IS BEING COMMANDED OPEN, THE CONDENSING UNIT SHALL BE OFF.
2. DURING UNOCCUPIED PERIODS:
   a. WHEN THE SUPPLY FAN IS ON, AND ANY ZONE SERVED BY THE UNIT IS CALLING FOR COOLING, ENABLE NORMAL CONTROL.
   b. WHEN THE SUPPLY FAN IS OFF, THE CONDENSING UNIT SHALL BE OFF.

VFD COMMUNICATION: PROVIDE A BACNET MS/TP INTERFACE FROM THE BMS TO ALL VFD'S.

DYNAMIC MINIMUM OUTSIDE AIR RESET:

1. MINIMUM OUTSIDE AIR SHALL BE DYNAMIC RESET FROM ITS MAXIMUM VALUE BY THE EMS BASED ON ASHRAE STANDARD 62.1 SYSTEM VENTILATION EFFICIENCY (EV).
2. DEFINITIONS:
   A. ATU: AIR TERMINAL UNIT
   B. EV: SYSTEM VENTILATION EFFICIENCY.
   C. EVZ: ZONE VENTILATION EFFICIENCY.
   D. VOZ: ZONE SUPPLY AIRFLOW.
   E. VOT: OUTSIDE AIR INTAKE FLOW.
   F. VOU: UNCORRECTED OUTSIDE AIRFLOW INTAKE FLOW.
   G. VOZ: ZONE OUTSIDE AIRFLOW.
   H. VPS: SYSTEM PRIMARY AIRFLOW.
   I. XS: AVERAGE OUTSIDE AIR FRACTION.
   J. ZD: ZONE DISCHARGE OUTSIDE AIR FRACTION.
3. THE EMS SHALL MONITOR VDZ SUPPLIED BY EACH ATU.
4. THE EMS SHALL CALCULATE ZD = VOZ/VDZ FOR EACH ATU. VOZ IS SCHEDULED ON THE DRAWINGS.
5. THE EMS SHALL CALCULATE VPS - SUM VDZ (SUM OF ALL ATU SUPPLY FLOW RATES).
6. THE EMS SHALL CALCULATE XS = VOU/VPS.
7. THE EMS SHALL CALCUALTE VOU=SUM OF ALL VOZ VALUES SCHEDULED FOR ATU'S SERVED BY GIVEN UNIT. IF BOX IS VACANT AS DETERMINED BY SPACE OCCUPANCY SENSOR, OR BY A CO2 SENSOR BELOW 500 PPM, VOZ FOR ATU SHALL BE ZERO. OCCUPANCY SENSORS BY DIVISION 26.
8. THE EMS SHALL CALCULATE EVZ - 1 + XS-ZD FOR EACH ZONE.
9. THE EMS SHALL CALCULATE EV = MINIMUM EVZ.
10. THE EMS SHALL CALCULATE VOT = VO/EV. THIS VALUE SHALL BE USED TO CONTROL THE OUTSIDE AIR DAMPER MINIMUM AIRFLOW.
11. THE OUTSIDE AIR FOR EACH AIR HANDLING UNIT SHALL NOT BE ALLOWED TO EXCEED THE SCHEDULED OUTSIDE AIR QUANTITY REGARDLESS OF THE CALCULATION RESULTS, UNLESS THE UNIT IS IN ECONOMIZER MODE.
12. THE EMS SHALL CALCULATE/MONITOR/CONTROL THE FOLLOWING FOR PROPER SYSTEM OPERATION:
   A. MINIMUM DESIGN OUTSIDE AIRFLOW
   B. SUPPLY CFM BEING DELIVERED BY EACH ATU.
   C. OUTSIDE AIR FRACTION FOR EACH ATU.
   D. TOTAL SUPPLY CFM BEING DELIVERED BY THE SYSTEM.
   E. UNCORRECTED OUTSIDE AIR CFM.
   F. AVERAGE OUTSIDE AIR FRACTION.
   G. ZONE VENTILATION EFFICIENCY.
   H. SYSTEM VENTILATION EFFICIENCY.
   I. MINIMUM OUTSIDE AIR CFM SETPOINT.
   J. MAXIMUM OUTSIDE AIR CFM.
   K. ATU VACANT/NOT VACANT STATUS (MONITORED EVERY 15 MINUTES).
   L. ZONE OUTSIDE AIRFLOW (FOR EACH ZONE).

POINTS LIST

BINARY INPUT		BINARY OUTPUT		ANALOG INPUT		ANALOG OUTPUT	
BI-1	DISCHARGE HIGH LIMIT STATIC	BO-1	SUPPLY FAN START/STOP	AI-1	RETURN AIR TEMPERATURE	AO-1	RETURN AIR DAMPER
BI-2	SUPPLY FAN CURRENT SENSOR	BO-2	COIL FREEZE PROTECTION PUMP	AI-2	RETURN AIR HUMIDITY	AO-2	OUTSIDE AIR DAMPER
BI-3	CONDENSING UNIT FAILURE	BO-3	REFRIGERATION ENABLED	AI-3	SPACE PRESSURE, REF OUTSIDE PRESSURE	AO-3	RELIEF AIR DAMPER 1
				AI-4	MIXED AIR TEMPERATURE	AO-4	RELIEF AIR DAMPER 2
				AI-5	HEATING COIL DISCHARGE AIR TEMP	AO-5	NOT USED
				AI-6	COOLING COIL DISCHARGE AIR TEMP	AO-6	HEATING WATER CONTROL VALVE
				AI-7	OUTSIDE AIRFLOW QUANTITY	AO-7	SUPPLY FAN SPEED
				AI-8	DUCT STATIC PRESSURE-SUPPLY	AO-8	CONDENSING UNIT CU-2 COMPRESSOR SPEED SIGNAL
				AI-9	OUTSIDE AIR TEMPERATURE (GLOBAL)		
				AI-10	OUTSIDE AIR HUMIDITY (GLOBAL)		

1 AHU-2 CONTROL SCHEMATIC
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SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/2021

PROJECT NO. 18005.000

SHEET TITLE
HVAC INSTRUMENTATION AND CONTROL SCHEMATICS

SHEET NUMBER
M603

AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	AREA SERVED	TYPE	SUPPLY FAN DATA											COOLING COIL DATA									
				TOTAL CFM	OA CFM	TYPE	TSP (IN WG)	ESP (IN WG)	MAX RPM/FAN CLASS	MOTOR HP	BHP	RPM	PHASE	VOLTS	MAX APD (IN WG)	ENTERING AIR (°F)		LEAVING AIR (°F)		CAPACITY (MBH)		SUCTION TEMP	LIQUID TEMP (F)	NUMBER OF COILS HIGH	# OF REFRIGERANT CIRCUITS	CIRCUITING
																DB	WB	DB	WB	SENS	TOTAL					
AHU-1	MECH	STACK AREA	VAV	13,000	3860	DIRECT DRIVE INTEGRAL ATTENUATION PLENUM FAN	4.3	2.0	2546/III	20	12.5	1698	3	460	.35	86.5	68.1	55	54	408.8	579	41	110	1	36 (2 @ 18)	INTERTWINED
AHU-2	MECH	ADMIN	VAV	6,000	1600	DIRECT DRIVE INTEGRAL ATTENUATION PLENUM FAN	4.5	2.25	2546/III	10	5.3	1578	3	460	.39	82	66.8	55	54	164.19	242.8	41	110	1	1 @ 18	THERMAL PARALLEL FLOW

AIR HANDLING UNIT SCHEDULE (CONTINUED)

TAG	LOCATION	HEATING COIL											MANUFACTURER	MODEL	REMARKS
		MBH	EAT	LAT	EWT	LWT	GPM	APD	WPD	# OF COILS IN COIL BANK	ROWS	PIPING RUNOUT			
AHU-1	MECH	346.6	38.3	63	150	120	23.66	.16	1.1	2	2	2" (1-1/4" TO EACH COIL)	HAAKON	INDOOR	
AHU-2	MECH	92	45.8	60	150	120	6.28	.16	0.1	1	2	1-1/4"	HAAKON	INDOOR	

NOTES:
1. COOLING COIL AND HEATING COIL FACE VELOCITIES SHALL NOT EXCEED 480 FPM.
2. AHU-1 FILTERS: 2" PRE-FILTER WITH 12" MERV 14 PRIMARY FILTERS. 6@24"X24", 2@24"X12".
3. AHU-2 FILTERS: 2" PRE-FILTER WITH 12" MERV 14 PRIMARY FILTERS. 2@24"X24", 2@24"X12".
4. SEE FAN SOUND POWER SCHEDULE FOR MAX. ALLOWABLE FAN SOUND POWER DATA.

LINEAR FLOOR DIFFUSERS

TAG	WIDTH	LENGTH	CORE STYLE	MODULATING DAMPER	MAX CFM	MIN CFM	NC AT MAX CFM	TSP	COIL DATA			MANUFACTURER AND MODEL NO.	REMARKS
									HEATING MBH	EWT	GPM		
LFD-1	0' - 10"	8' - 0"	LINEAR BAR 15A	YES	600	180	<15	.04"	5536	150	2	PRICE LNT W/LFG GRILLE	-
LFD-2	0' - 10"	6' - 0"	LINEAR BAR 15A	YES	340	100	<15	.04"	4152	150	2	PRICE LNT W/LFG GRILLE	-
LFD-3	0' - 10"	4' - 0"	LINEAR BAR 15A	YES	225	68	<15	.04"	2768	150	2	PRICE LNT W/LFG GRILLE	-
LFD-4	0' - 10"	8' - 0"	LINEAR BAR 15A	NO	-	-	-	-	4555	150	2	PRICE LNT W/LFG GRILLE	1
LFD-5	0' - 10"	6' - 0"	LINEAR BAR 15A	NO	-	-	-	-	3174	150	2	PRICE LNT W/LFG GRILLE	1
LFGH-1	0' - 6"	4' - 0"	LINEAR BAR 15A	YES	500	300	<15	.08"	6370	150	2	PRICE LFGH WITHOUT GRILLE	2
LFGH-2	0' - 6"	2' - 0"	LINEAR BAR 15A	YES	200	100	<15	.08"	4290	150	2	PRICE LFGH WITHOUT GRILLE	2

REMARKS:
1. NO SUPPLY AIRFLOW OPENING OR DAMPER.
2. CLIENT SELECTED STANDARD DEFLECTION FIXED CORE WOODEN GRILLE TO HIDE SUPPORT FLANGE.

ROUND FLOOR DIFFUSERS

TAG	FACE SIZE	FACE PATTERN	BASKET TYPE	MOUNTING	MAX CFM	NC AT MAX CFM	PD AT MAX CFM (IN. WC)	MATERIAL	FINISH	MANUFACTURER AND MODEL NO.	POWER	REMARKS
RFD-1	0' - 10"	DISPLACEMENT	VARIABLE FLOW	RING PRESS FIT	56	<15	.03	ALUMINUM	BLACK	PRICE MFD WITH DBV BASKET	24V	MINIMUM FLOW SHALL BE 20 CFM

LINEAR SLOT DIFFUSER SCHEDULE

TAG	NUMBER OF SLOTS	SLOT WIDTH (IN)	LENGTH (IN)	MAX. NC	MAX CFM	INLET SIZE (IN)	HEIGHT (IN)	MANUFACTURER	MODEL	REMARKS
LD-1	2	1	48	25	279	8	8	PRICE	TBD3100	

MINI-SPLIT SYSTEM CONDENSING UNIT SCHEDULE

TAG	LOCATION	OUTDOOR DESIGN DATA	MINIMUM EFFICIENCY (SEER)	ELECTRICAL DATA				MANUFACTURER	MODEL	REMARKS
		SUMMER AMBIENT TEMPERATURE (°F)		MCA	MOP	VOLTS	PHASE			
ACCU-1	MECHANICAL YARD	95	21.5	13	20	208	1	LG	LSU180HSVS	

MINI-SPLIT SYSTEM FAN UNIT SCHEDULE

TAG	LOCATION	TYPE	AIRFLOW (CFM)	COOLING DATA	MANUFACTURER	MODEL	REMARKS
				TOTAL CAPACITY (MBH)			
FCU-1	IT CLOSET	WALL MOUNTED	706	18,000	LG	LSN180HSVS	

FAN SOUND POWER SCHEDULE

TAG	63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	8000 HZ	REMARKS
AHU-1 FAN INLET	78	79	81	81	75	75	76	71	
AHU-1 FAN OUTLET	90	86	86	89	86	82	79	72	
AHU-2 FAN INLET	75	71	78	72	68	71	68	65	
AHU-2 FAN OUTLET	82	84	79	79	80	76	73	66	
RF-1 INLET	79	88	87	84	83	79	74	65	
RF-1 OUTLET	84	87	86	88	86	81	75	65	

CONDENSING UNIT SCHEDULE

TAG	LOCATION	MIN TOTAL CAPACITY (BTUH)	MIN IEER	POWER	REFRIGERANT	NUMBER OF FANS	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS
							MCA (CCT1)	MOP (CCT1)	MCA(CCT2)	MOP (CCT2)	VOLTS	PHASE			
CU-1A	MECHANICAL YARD	288,000	21.0	2 CIRCUITS	R410A	4	16.4	25	35.7	50	460	3	LG	ARUM 288DTE5	VARIABLE SPEED LEAD COMPRESSOR
CU-1B	MECHANICAL YARD	288,000	21.0	2 CIRCUITS	R410A	4	16.4	25	35.7	50	460	3	LG	ARUM 288DTE5	VARIABLE SPEED LEAD COMPRESSOR
CU-2	MECHANICAL YARD	233,100	22.70	1 CIRCUIT	R410A	2	41.4	50	0	0	460	3	LG	ARUM241DTE5	VARIABLE SPEED LEAD COMPRESSOR

GAS FIRED BOILER SCHEDULE

TAG	LOCATION	TYPE	GROSS INPUT (MBH)	GROSS OUTPUT (MBH)	RELIEF VALVE SETTING (PSIG)	BURNER INLET PRESSURE	ELECTRICAL DATA			MANUFACTURER	MODEL	REMARKS
							AMPS	VOLTS	PHASE			
B-1	MECH	CONDENSING	1000	961	50	4"-7"	5.2	115	1	CLEAVER BROOKS	CFC 1000	
B-2	MECH	CONDENSING	1000	961	50	4"-7"	5.2	115	1	CLEAVER BROOKS	CFC 1000	

GRAVITY VENTILATOR SCHEDULE

TAG	DESCRIPTION	CFM	APD (IN WG)	DIMENSIONS			GV-UNIT SERVED	MATERIAL	MANUFACTURER	MODEL	REMARKS
				THROAT LENGTH (IN)	THROAT WIDTH (IN)	THROAT VELOCITY (FPM)					
RH-1	GRAVITY RELIEF HOOD	3,000	.019	48	42	286	AHU-2	ALUMINUM	GREENHECK	FGI	
RH-2	GRAVITY RELIEF HOOD	3,000	.019	48	42	286	AHU-2	ALUMINUM	GREENHECK	FGI	

GRILLE/REGISTER AND DIFFUSER SCHEDULE

TAG	FACE SIZE (IN)	SQUARE NECK SIZE (IN)	ROUND NECK SIZE (IN)	MAX CFM	MAX NC (AT MAX CFM)	MATERIAL	FINISH	TYPE	MANUFACTURER	MODEL	REMARKS
EG-1	24x12	22x10	-	720	25	ALUMINUM	WHITE	EGGCRATE	PRICE	80	-
RG-1	24x12	22x10	-	720	25	ALUMINUM	WHITE	EGGCRATE	PRICE	80	-
RG-2	24x24	22x22	-	1053	25	ALUMINUM	WHITE	EGGCRATE	PRICE	80	-
RG-3	-	-	-	-	-	-	-	-	-	-	1
SD-1	24x24	-	6" Ø	196	25	STEEL	WHITE	PLAQUE	PRICE	SPD	-
SD-2	24x24	-	8" Ø	314	25	STEEL	WHITE	PLAQUE	PRICE	SPD	-
SD-3	24x24	-	10" Ø	436	25	STEEL	WHITE	PLAQUE	PRICE	SPD	-
SG-1	12x6	-	-	250	18	STEEL	WHITE	SIDEWALL LOUVRED	PRICE	510	-
SG-2	-	-	-	-	-	-	-	-	-	-	1
SG-3	-	-	-	-	-	-	-	-	-	-	1

REMARKS:
1. CLIENT SELECTED GRILLE. REFERENCE A-SERIES DRAWINGS FOR MORE INFORMATION.

HOT WATER CABINET HEATER/PROPELLER UNIT HEATER SCHEDULE

TAG	LOCATION	TYPE	HEATING COIL DATA						ELECTRICAL DATA			MANUFACTURER	MODEL	CONTROL VALVE	REMARKS
			CFM	TOTAL CAPACITY (MBH)	EAT (°F)	GPM	EWT (°F)	WPD (FT WG)	HP	VOLTS	PHASE				
CUH-1	NORTH VESTIBULE	FLUSH CEILING	540	37	60	2.4	150	3.6	0.12	120	1	TRANE	FFEB 060	3-WAY	HORIZONTAL RECESSED, BOTTOM STAMPED INLET AND OUTLET
CUH-2	SOUTH VESTIBULE	FLUSH CEILING	540	37	60	2.4	150	3.6	0.12	120	1	TRANE	FFEB 060	3-WAY	HORIZONTAL RECESSED, BOTTOM STAMPED INLET AND OUTLET
PUH-1	MECH	PROP HEATER	1100	30	60	2.0	150	0.5	0.125	120	1	TRANE	70S	2-WAY	

POWER VENTILATOR SCHEDULE

TAG	LOCATION	SERVICE	CFM	TSP (IN WG)	FAN TYPE	WHEEL DIAMETER (IN)	DRIVE TYPE	ACCOUSTICAL DATA		ACCESSORIES	BHP	RPM	FAN EFFICIENCY GRADE	CONTROL	MOTOR DATA				MANUFACTURER	MODEL	REMARKS
								SONES	INLET dBA						HP	MOTOR RPM	VOLTS	PHASE			
RF-1	MECH	AHU-1 RELIEF	12,500	1.5	MIXED FLOW	27	DIRECT	24	76	2	5.08	1770	71	VFD - BMS	7.5	1170	460	3	GREENHECK	QEID-27	
TEF-1	ROOF	TOILET EXHAUST	780	0.625	DOME	10	DIRECT	14.1	64	1,2,3,4,5	.26	2113	-	BMS	0.5	2500	120	1	GREENHECK	G-103HP-VG	
TEF-2	ROOF	TOILET EXHAUST	450	0.625	DOME	10	DIRECT	8.1	55	1,2,3,4,5	.11	1552	-	BMS	0.33	1725	120	1	GREENHECK	G-123-VG	

REMARKS:
1. COUNTERBALANCED BACKDRAFT DAMPER.
2. UNIT MOUNTED DISCONNECT.
3. OUTDOOR CONSTRUCTION.
4. VARI-GREEN EC MOTOR.
5. INTEGRAL SPRING LOADED BACKDRAFT DAMPER.

AIR TERMINAL UNIT SCHEDULE

TAG	INLET SIZE (IN)	MAX CFM	HEATING CFM	MIN CFM	MAX APD (IN WG)	HYDRONIC HEATING DATA								MANUFACTURER	MODEL	REMARKS
						EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	CAPACITY (MBH)	GPM	MAX WPD (FT WG)	RUNOUT SIZE (IN)			
VAV-01	8	510	255	170	0.45	55	75	150	120	10.5	0.7	3	0.75	PRICE	SDV	-
VAV-02	6	325	200	110	0.45	55	75	150	120	6.5	0.5	3	0.75	PRICE	SDV	-
VAV-03	6	300	150	100	0.45	55	75	150	120	4.9	0.5	3	0.75	PRICE	SDV	-
VAV-04	12	1575	1000	525	0.45	55	75	150	120	37.8	2.5	3	0.75	PRICE	SDV	3-WAY CONTROL VALVE
VAV-05	6	200	150	70	0.45	55	75	150	120	6.6	0.5	3	0.75	PRICE	SDV	-
VAV-06	6	305	155	105	0.45	55	75	150	120	6.3	0.5	3	0.75	PRICE	SDV	-
VAV-07	6	200	100	70	0.45	55	75	150	120	3.3	0.5	3	0.75	PRICE	SDV	-
VAV-08	6	300	150	100	0.45	55	75	150	120	4.5	0.5	3	0.75	PRICE	SDV	-
VAV-09	6	340	170	115	0.45	55	75	150	120	8.9	0.6	3	0.75	PRICE	SDV	-
VAV-10	6	310	150	105	0.45	55	75	150	120	5	0.5	3	0.75	PRICE	SDV	-
VAV-11	8	425	215	145	0.45	55	75	150	120	9.8	0.7	3	0.75	PRICE	SDV	-
VAV-12	6	270	160	90	0.45	55	75	150	120	6.4	0.5	3	0.75	PRICE	SDV	-
VAV-13	6	150	75	50	0.45	55	75	150	120	3.1	0.5	3	0.75	PRICE	SDV	-
VAV-14	8	500	150	170	0.45	55	75	150	120	5.7	0.5	3	0.75	PRICE	SDV	-
VAV-15	6	220	110	75	0.45	55	75	150	120	3.9	0.5	3	0.75	PRICE	SDV	-

PUMP SCHEDULE

TAG	LOCATION	TYPE	TYPE SERVICE	GPM	FEET HEAD	EFFICIENCY (%)	MOTOR RPM	ELECTRICAL DATA			MANUFACTURER	MODEL	REMARKS
								HP	VOLTS	PHASE			
CP-1	MECH	IN-LINE CIRCULATOR	FREEZE PROTECTION	2	12	-	2950	0.17	115	1	B&G	NBF-33	
CP-2	MECH	IN-LINE CIRCULATOR	FREEZE PROTECTION	2	12	-	2950	0.17	115	1	B&G	NBF-33	
HWP-1	MECH	END SUCTION	HEATING WATER	75	65	56.3	1750	3	460	3	B&G	1532 1.25BC	
HWP-2	MECH	END SUCTION	HEATING WATER	75	65	56.3	1750	3	460	3	B&G	1532 1.25BC	

PRESSURIZED EXPANSION TANK AND AIR CONTROL SCHEDULE

TAG	SERVICE	TYPE	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	PRECHARGE PRESSURE (PSIG)	AIR SEPARATOR / PURGER			MANUFACTURER	MODEL	REMARKS
						TAG	MANUFACTURER	MODEL			
ET-1	HEATING WATER	BLADDER	158	158	12	AS-1	B&G	4"	WESSELS	NLA-600	

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SEAL | DATE 10/28/2021

KAREN S. LOFTUS REGISTERED No. PE10101318 STATE OF INDIANA PROFESSIONAL ENGINEER

Karen S Loftus

SHEET ISSUE

1	100% CONSTRUCTION SET	9/24/2021
2	ADDENDUM #3	10/28/202 1

PROJECT NO. 18005.000

SHEET TITLE
MECHANICAL SCHEDULES

SHEET NUMBER
M701

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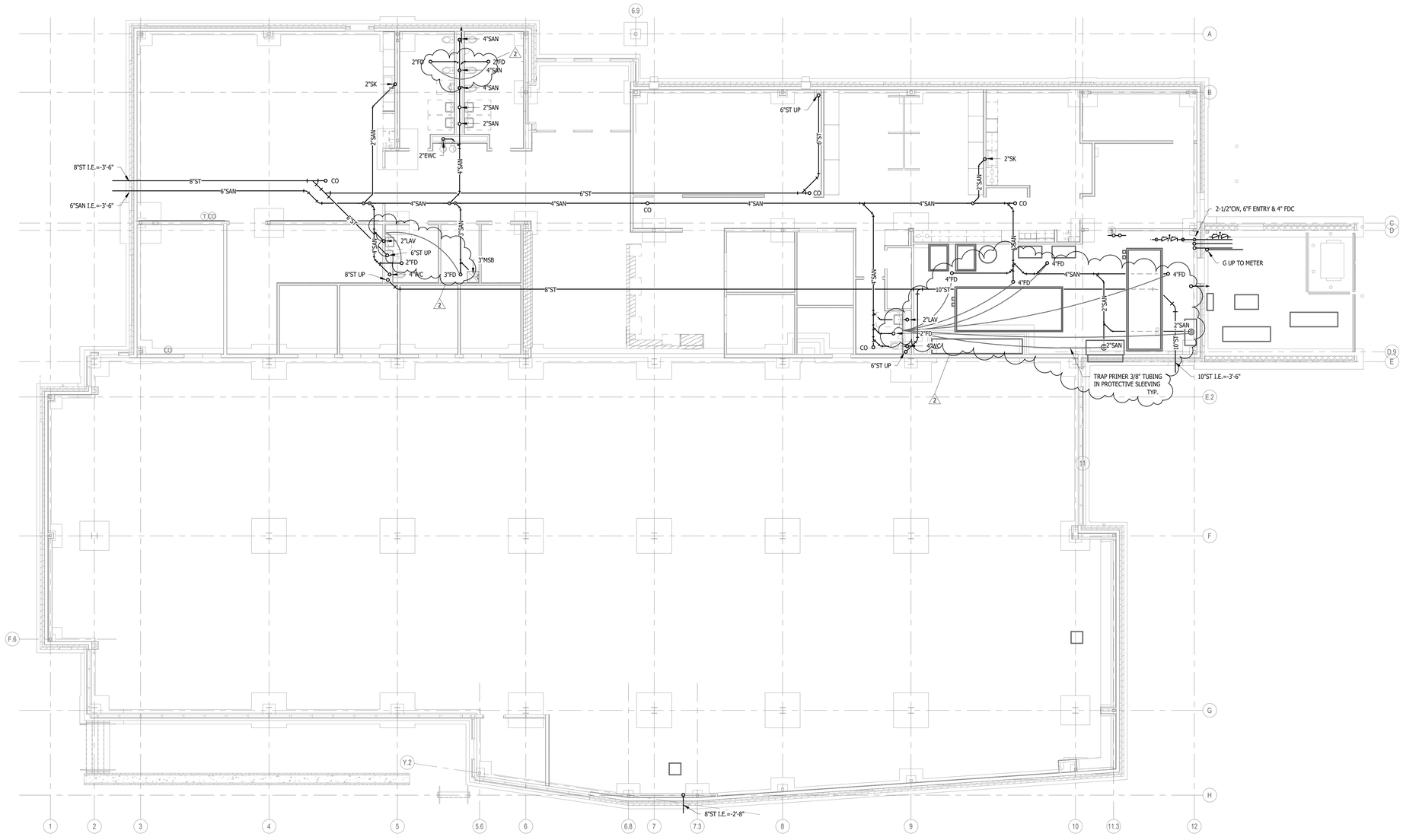

1 P200 **UNDERFLOOR PLUMBING PLAN**

1/8" = 1'-0"

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RATIO

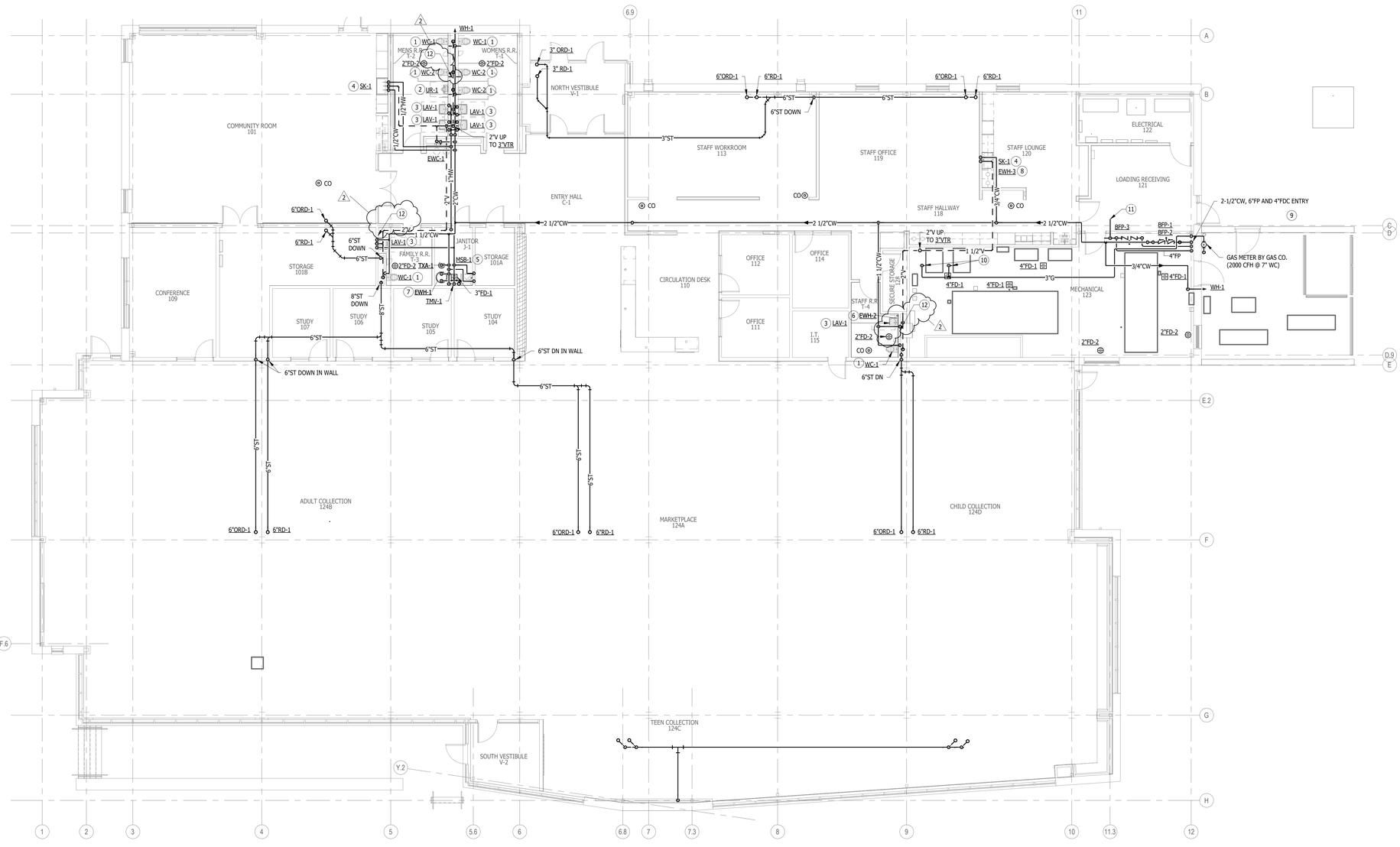
PROJECT NO. 18005.000

SHEET TITLE
UNDERFLOOR PLUMBING PLAN

SHEET NUMBER
P200

PLAN NOTES:

1. 1" CW AND 2" V TO WATER CLOSET, 4" SAN DOWN.
2. 3/4" CW AND 1-1/2" V TO URINAL, 2" SAN DOWN.
3. 1/2" HW, 1/2" CW AND 1-1/2" V TO LAVATORY, 2" SAN DOWN.
4. 1/2" HW, 1/2" CW AND 1-1/2" V TO SINK, 2" SAN DOWN.
5. 3/4" HW, 3/4" CW TO MOP SEREVICE BASIN, 3" SAN DOWN.
6. 3/4" CW DOWN IN WALL, 1/2" CW TO TANKLESS WATER HEATER MOUNTED BELOW LAVATORY. 1/2" HW FROM WATER HEATER TO LAVATORY. SEE POINT OF USE WATER HEATER DETAIL 3/P501.
7. 1" CW AND 1" HW TO ELECTRIC WATER ON SHELF MOUNTED TO WALL, SEE ELECTRIC WATER HEATER PIPING DETAIL 2/P501.
8. 3/4" CW DOWN IN WALL, 1/2" CW TO TANKLESS WATER HEATER MOUNTED BELOW SINK. 1/2" HW FROM WATER HEATER TO SINK. SEE POINT OF USE WATER HEATER DETAIL 3/P501.
9. SEE DOMESTIC WATER FLOW DIAGRAM 1/P501. AND FIRE PROTECTION FLOW DIAGRAM 5/P501.
10. 2-1/2" G TO BOILER, SEE EQUIPMENT GAS CONNECTION DETAIL 4/P501.
11. TO FIRE SPRINKLERS.
12. PROVIDE SERVICE SHUT OFF VALVE BEFORE TRAP PRIMER.



FIRST FLOOR PLUMBING PLAN

1/8" = 1'-0"

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